# LINCOLN PLAZA

## DRAFT 81.297E

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Publication Date: October 14, 1983

Public Hearing Date: November 17, 1983

Public Comment Period: October 14, 1983
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City and County of San Francisco

San Francisco Department of City Planning

ENVIRONMENTAL
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# DRAFT ENVIRONMENTAL IMPACT REPORT

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# CHAPTER I. SUMMARY

## PROJECT DESCRIPTION

The project sponsor, Lincoln Property Company, proposes to construct a 33-story office building at 554-572 Mission St. in the block bounded by Market, First, Mission and Second Streets. Two, six-story office buildings, a diner, a parking lot and a commercial photo-processing kiosk would be replaced by the proposed project. Entrances to the building would be on Anthony, Jessie and Mission Sts. The project, to be called Lincoln Plaza, would contain about 621,000 gross sq. ft. as follows: 558,000 gross sq. ft. of office space, 9,000 gross sq. ft. of retail, 7,500 sq. ft. of lobby and building core, 6,800 sq. ft. of off-street loading (four loading spaces) and about 40,000 sq. ft. (approximately 95 spaces) in one level of underground parking. The base of the building would be defined by granite and clear glass terminated at the third floor by a horizontal granite band. The third floor would step out over the second floor and the second floor would step out over the ground floor. The resulting space (between the ground and third floors) would be enclosed by clear glass accented by granite columns and horizontal granite bands. The facade would be aluminum and gray or light green solar glass. The proposed project would be 469 ft. tall and would have an F.A.R. of 14:1. An approximately 14,500 sq. ft. plaza would be created on the west portion of the site.

# I. SUMMARY

## PROJECT IMPACTS

### Land Use, Zoning and Urban Design

The project would comply with height and bulk provisions and the C-3-0 zoning regulating the site. Lincoln Plaza would be 147 feet less than the presently allowed 600 foot height and 97 feet less than the Downtown Plan proposed 550 foot height limit. The project would block some views of the Bay from buildings west of the proposed project (see Table 3, p. 62). The project tower would be most visible from southern approaches to the City.

### Architectural Resources

The project would require the demolition of two buildings, the 562 and the 554-560 Mission St. buildings. Both are rated "C" by the Heritage Foundation. The rating of the 562 Mission St. building is based on its dropped-panel mushroom column structural system. Two buildings in the south of Market area predate the 562 Mission St. building (see p. 28, for further discussion).

A small, prefabricated metal diner on the site (lot 20) rated "C" by the Heritage Foundation, would be donated to someone who would remove it from the site. The diner was designed by Thomas Davis who used prefabricated components to assemble custom diners suitable to specific sites. The diner is the only unaltered example of his work in San Francisco (see pages 35 and 36).

### Shadows

Net new shadow impacts on open space areas would be limited to the project plaza from 10 am to 11 am and the 71 Stevenson plaza at noontime during

June. Lincoln Plaza would be sunlit in June at the time 71 Stevenson was shaded. Seventy-five percent, or more, of Lincoln Plaza would be sunlit from 10 am to noon in March, noon to 2 pm in June, 11 am to 1 pm in September, and 10 to 11 am in December. The least sun in the 10 am to 2 pm period (20% sunlit) would occur at 2 pm in March and December. The proposed project would shade the north end of Anthony Street and the west end of Jessie at 10 am and would not cast new shadow on these streets during the rest of the day. See pages 69 to 83 for shadow diagrams and analysis of shadow impacts.

### Wind

Under southwest wind conditions, assuming construction of both Lincoln Plaza and the 71 Stevenson building, the comfort criterion (11 mph) would be exceeded on Mission and Jessie Sts. adjacent to the project by 1-5 mph part of the time during southwest winds, which occur an average of 20 days annually during March through September. Under northwest and west wind conditions the comfort criterion would not be exceeded because existing development would shelter the project from these winds. See pages 88 to 92 and Appendix IV, p. A-40 for wind impact analysis.

## EMPLOYMENT, HOUSING AND FISCAL CONSIDERATIONS

The project would create a net increase of about 1,700 jobs on the project site. Construction of the project would take about 24 months and require 640 person-years of labor.

Office workers employed in the project would generate about 3% of the cumulative office project-related housing demand due to 18 million sq. ft. of net new office space proposed, approved or under construction. Housing demand attributable to the proposed project would be about 190-370 units, 370 units according to the Office Housing Production Program formula.

Annual revenues to San Francisco's General Fund from the project site would total about $1.2 million, a net increase of about $1 million (see pp. 93-104).

## TRANSPORTATION

Based on use, the project would generate about 9,700 net new person trips per day, 8,300 from office and 1,400 from retail space. The project is expected to generate about 1,000 peak-hour person trips, 240 by automobile, 330 on Muni and 430 distributed on other transit systems or on foot. Project generated riders during the p.m. peak hour would be about 2.5% of the demand from 18 million gross sq. ft. of net new cumulative office development and 0.6 million gross sq. ft. of net new retail development when all the development considered is occupied.

The project would generate approximately 1,000 p.m. peak-hour pedestrian trips; pedestrian traffic would increase 30-60% on Mission, Anthony, Jessie and Ecker Sts. due to the project. Pedestrian flows on Mission St. would increase from unimpeded to impeded after completion of the project (see pp. 116-118).

Covered pedestrian walkways would be built to provide safe pedestrian passage adjacent to the site during construction. No impact on Mission St. transit and traffic movement is expected because construction would not block the curb (diamond) traffic lane and construction trucks would access the site from Anthony St.

The existing 200 parking spaces on the project site would be removed. The proposed project would provide 95 parking spaces on one underground level.

## NOISE

During construction of the proposed project noise levels on sidewalks and in buildings near the project site would be increased. However, if windows were kept shut, no interference with the use of office space, conference rooms and classrooms would be expected if pile driving were not required; however, annoyance may occur. Should piles be required, pile driving would disturb occupants of nearby offices and students in Golden Gate University Classrooms on the west side of the University. See discussion on pp. 129-132.

## HAZARDS

The proposed project would require excavation to accommodate one level of parking. Two underground PG&E transformer vaults containg PCBs, toxic electrical insulating material, would be removed by PG&E prior to excavation.

## CUMULATIVE COMMUNITY SERVICES

As part of cumulative development in San Francisco, the proposed project would create additional demands on San Francisco's community services. The San Francisco Police Department (SFPD) indicates that an increase in burglary and petty theft is likely as the Downtown becomes more developed. Typically, new office development requires less police services per building because of building security systems. Additional personnel or equipment would not be needed to serve the site.

No additional personnel or equipment would be needed by the Fire Department as a result of this project.

## MAJOR MITIGATION MEASURES PROPOSED AS PART OF THE PROJECT

### Urban Design and Visual Quality

- An approximately 14,500 sq. ft. project plaza would provide publicly accessible open space in an area with little such open space.
- The design of the base of the building would continue the building lines of Golden Gate University in order to provide design compatibility and continuity along Mission St.
- Elements to create pedestrian interest at the base and building setbacks would help to reduce the perceived bulk of the building.
- Project Sponsor would cooperate with the developers of other approved and proposed projects on the block to coordinate plaza design and paving to insure compatibility.

### Transportation

- The general construction contractor would provide that, whenever possible, no construction traffic would enter or leave the site between 7-9 am and 4-6 pm to minimize rush hour traffic conflicts.

### Hazards

- Prior to project construction, PG&E would remove sub-sidewalk vaults containing PCBs to avoid possible rupture during excavation.

## OTHER MITIGATION MEASURES

### Housing

- Provision of 370 housing units, or their equivalent, under the Office Housing Production Guidelines would mitigate the estimated housing demand in San Francisco due to the project. This measure could be required as a condition of project approval.

## ALTERNATIVES

Five alternatives to the proposed project are evaluated in this EIR, beginning on page 156.

Alternative 1a would be a building with an FAR of 21:1, compared to the project's FAR of 14:1, and about 300,000 sq. ft. more than the proposed project. This alternative would result in a 600 ft. building, permitted in the height district, and would have the same design as the smaller, proposed building.

The larger size (approximately 30% more sq. ft.) of Alternative 1a would increase the magnitude of the impacts associated with the project.

Alternative 1b would be a building with a FAR of about 18:1 and would contain 150,000 (about 15%) more sq. ft. of office space than the proposed project. The project tower would be approximately 550 ft. tall and would have the same design as the proposed project. Impacts of the Alternative would be less than those of Alternative 1a and greater than for the proposed project.

Both Alternative 1a and 1b would require the project sponsor to acquire development rights from another site to allow FAR exceeding the current maximum of 14:1.

Alternative 2 would comply with the policies of the proposed Downtown Plan (Department of City Planning, August, 1983). It would be less dense, 10:1 FAR (420,000 sq. ft.), than the proposed project and would contain no parking.

The impacts of Alternative 2 would be about 40% less than those of the proposed project due to the smaller building size. Impacts associated with on-site parking would not occur.

Alternative 3 presents two parking options: 3a, elimination of parking on the project site and 3b, parking on three underground levels (284 spaces).

The first option would be the proposed project with no parking. No noticeable design changes would be made. The elimination of parking on the project site would reduce auto trips to the project.

The second parking option would have 100,000 sq. ft. of parking, 60,000 more sq. ft. than the proposed project. This Alternative would exceed the maximum parking area permitted by the Code by approximately 60,000 sq. ft. and would require conditional use authorization. Parking square footage in excess of 40,000 sq. ft. would be included in the project FAR resulting in an FAR of approximately 16:1 for this Alternative. Development rights would be acquired from another site(s) to allow this alternative to exceed the current maximum FAR of 14:1. No noticeable design changes would be made.

The increased parking, approximately 190 spaces more than the proposed project, would increase vehicle trips to the site. Illegal parking and the number of drivers searching the project vicinity for street parking would be reduced.

Alternative 4 would be a design alternative in which the proposed project design would be rotated 90 degrees with its longer side along Mission St. to minimize wind impacts. This alternative would have its plaza north of the building and almost entirely shaded.

Alternative 5, No Project, would retain the site in its existing condition. None of the impacts discussed for the project would occur.

# CHAPTER II. PROJECT DESCRIPTION

## A. SPONSOR'S OBJECTIVES

The Project sponsor, Lincoln Property Company, proposes to construct an office building in downtown San Francisco, just south of Market Street. The sponsor's objective is to develop a modern building for office, retail/commercial and parking uses and to realize a return on investment. The project architect is Hellmuth, Obata and Kassabaum, Inc.

## B. PROJECT LOCATION

The project site is on Mission between First and Second Sts., bordered on the west by Anthony St., on the north by Jessie St. and on the east by Golden Gate University (Figures 1 and 2, pp. 10 and 11). The 41,102 sq. ft. site is in Assessor's Block 3708, including lots 15, 17, 18 and 20.

## C. PROJECT DESCRIPTION

The proposed Lincoln Plaza development would have approximately 621,000 gross sq. ft. in an office tower and a 14,500 sq. ft. public plaza. The project would include approximately 558,000 sq. ft. of office, 9,000 sq. ft. of retail and 7,500 sq. ft. of building core. The area defined by the City Planning Code for the purpose of determining compliance with allowable FAR would be 575,000 sq. ft., resulting in an FAR of 14:1.[1] One

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[1] Floor Area Ratio (FAR): The maximum allowable ratio of the gross floor area of the building to the site area. For example, an FAR of 14:1 means that the maximum permitted gross floor area for a building is 14 times the area of the site.

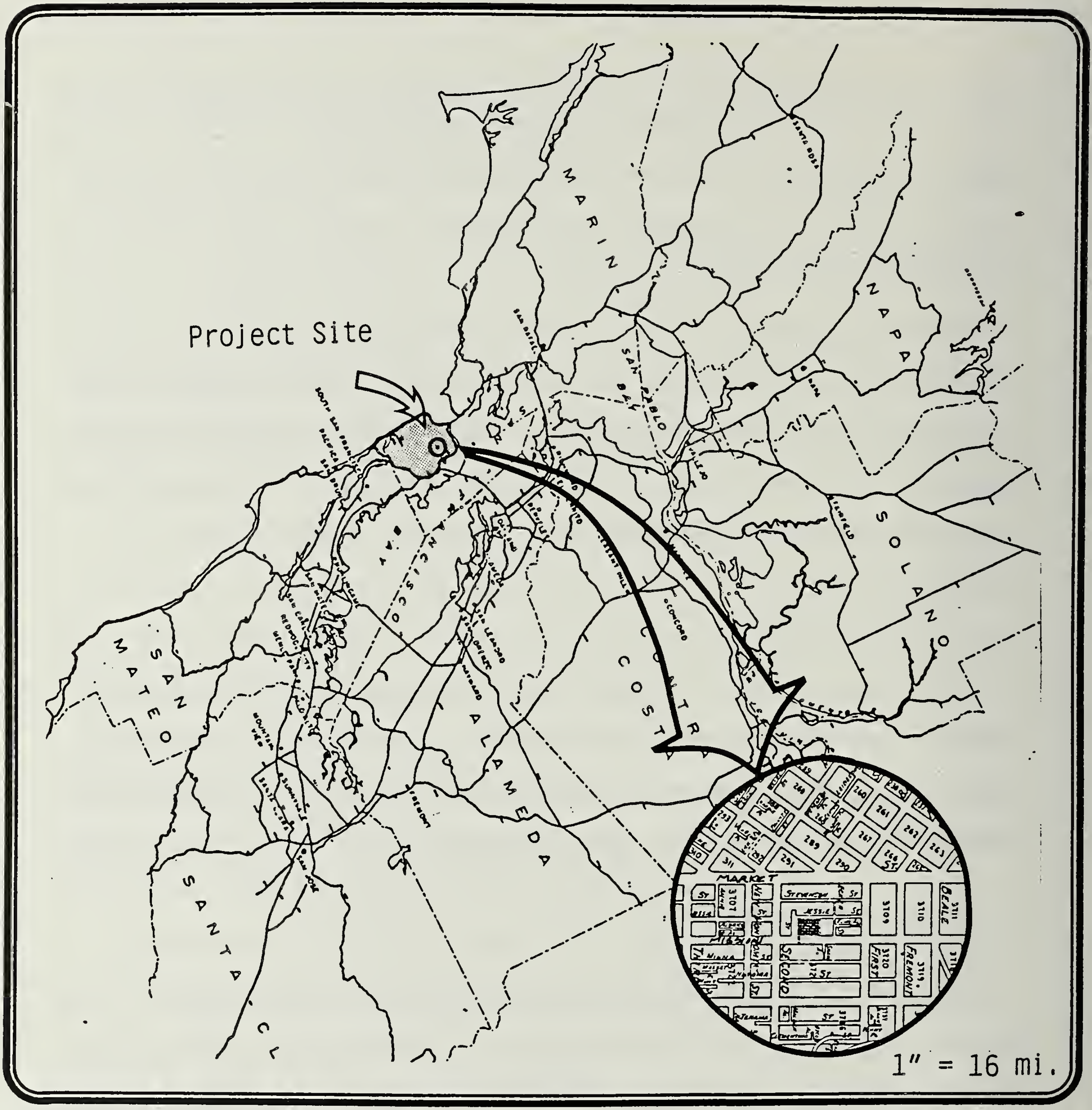


Figure 1

REGIONAL LOCATION
Lincoln Plaza

N

PROJECT SITE ▨
1" = 1600'

Source: Bendix Environmental Research, Inc.

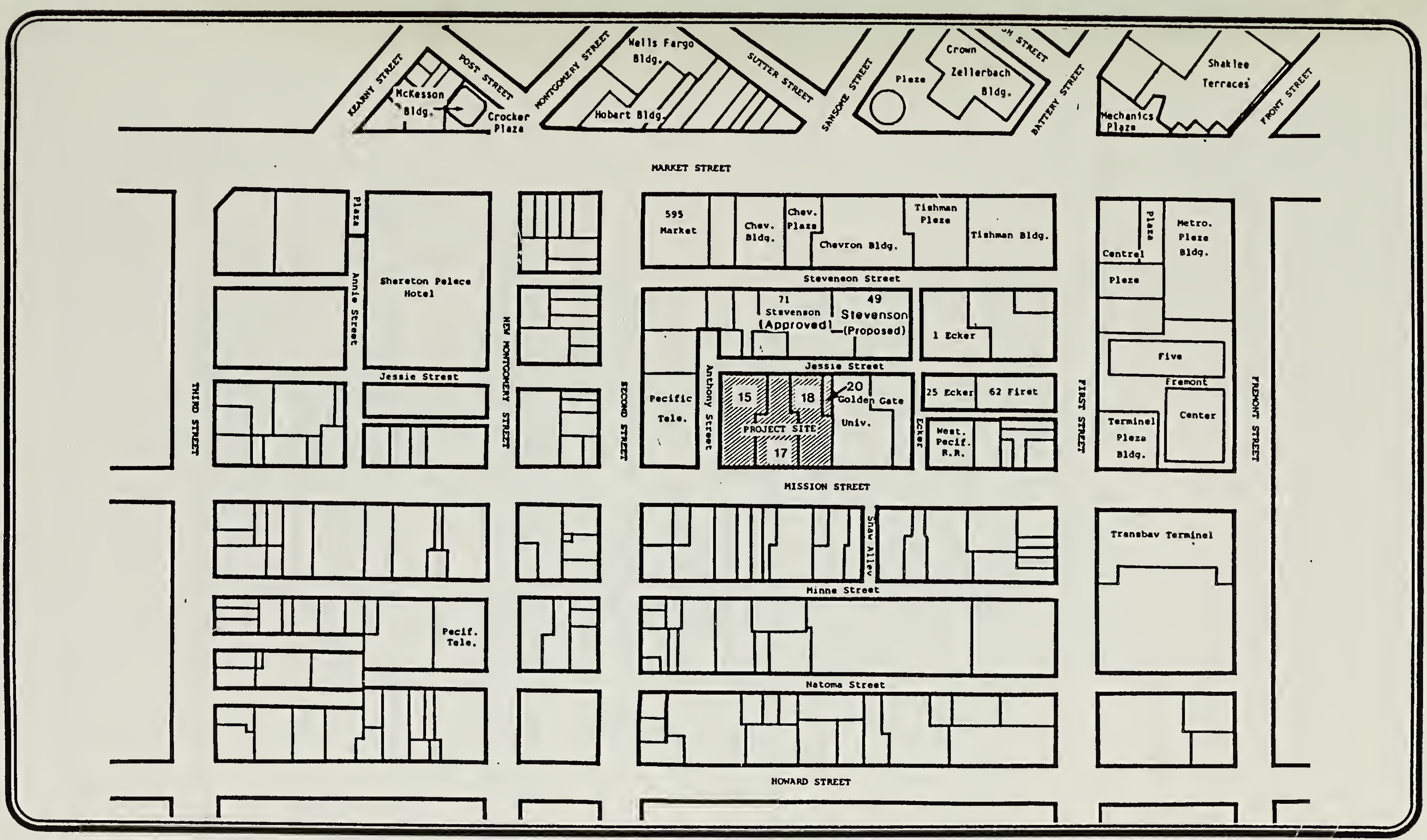


Figure 2
Project Site
Lincoln Plaza

Source: Bendix Environmental Research, Inc.

Assessors Block 3708

Lot #15 - Metro Park
Lot #17 - 562 Mission Street
Lot #18 - 554-560 Mission Street
Lot #20 - 57 Jessie Street

Not to Scale

underground level of parking providing approximately 95 spaces (about 40,000 sq. ft.) with access from Anthony St. and four off-street loading spaces (6,800 sq. ft.) accessible from Jessie St. are proposed; these are not included in FAR calculations. Table 1, p. 13, gives the proposed project's characteristics.

The project would have 33 stories and a 27 ft. mechanical penthouse above ground level and would be approximately 469 feet tall. Floors 2-33 would be for office use and the ground floor would be for retail/commercial space, mechanical space and off-street loading. The basement would be used for mechanical equipment in addition to parking. See Figures 3-7, pp. 14-18, for elevations and plans of the building.

The ground floor would have a glass-enclosed entrance accessible from Mission, Jessie and Anthony Sts. The base of the building would be defined by a horizontal granite band at the third floor and by clear glass and granite columns extending to the ground level. On the Anthony St. face of the building the third floor would step out over the second, and the second would step out over the ground floor. The resulting space (between the ground and third floors) would be enclosed by a clear glass curtain wall accented by granite columns and horizontal granite bands. On the Jessie and Mission St. facades the second and third floors would be flush with the ground floor (not stepped out). The building facade would consist of aluminum and transparent, light gray or green, non-reflective glass above the third floor. The building would have an arched rooftop (see Fig. 8, p. 19, for a photomontage of the project).

Two six-story buildings, 562 and 554-560 Mission St. and an old prefabricated metal diner at 57 Jessie St., occupy part of the site (a surface/

Table 1. Project Characteristics

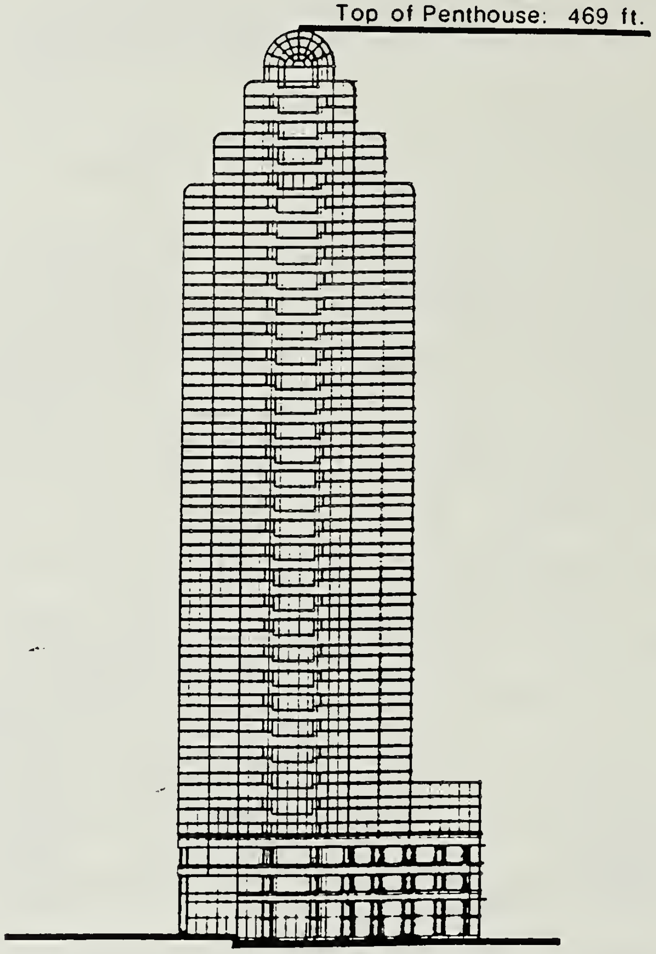
| | Number of Stories |
|---|---|
| Retail/Lobby | 1 |
| Office | 32 |
| Total | 33 |
| Mechanical Penthouse | 27 ft. high |
| Parking | 95 spaces (1 underground level) |
| Plaza | 14,500 sq. ft. (approximately) |
| Access to Parking and Loading | 3,400 sq. ft. (approximately) |
| Off-Street Loading | 6,800 sq. ft. (4 spaces) |

| | Height and Bulk | |
|---|---|---|
| | Proposed | Permitted |
| Height | 453 ft.** | 700 ft. |
| Length | 170 ft. | 170 ft. |
| Diagonal | 182 ft. | 200 ft. |
| FAR | 14:1 | 14:1 |

| Floor Area Included in FAR Calculation in sq. ft. | | Floor Area Excluded From FAR Calculation in sq. ft. | |
|---|---|---|---|
| Lobby and Bldg. Core | 7,500 | Loading | 6,800 |
| Retail | 9,000 | Parking | 40,000 |
| Office | 558,000 | | |
| Total | 575,000* | Total | 47,000* |

* Columns do not add due to rounding.
** Not including 16 ft. of mechanical penthouse (Planning Code § 260).
Source: Bendix Environmental Research, Inc.

(Text continues on page 20)



--Mission St.--

Figure 3

Proposed Project

Mission St. Elevation
(South)

Lincoln Plaza

SOURCE: Bendix Environmental Research Inc. and HOK Architects Inc

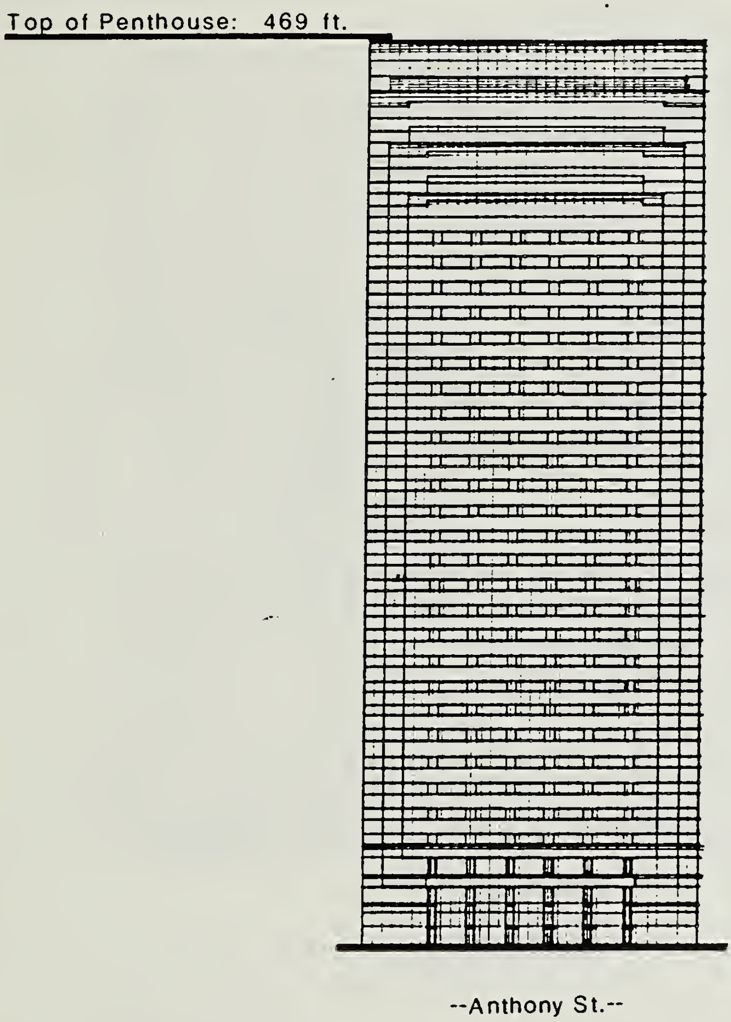


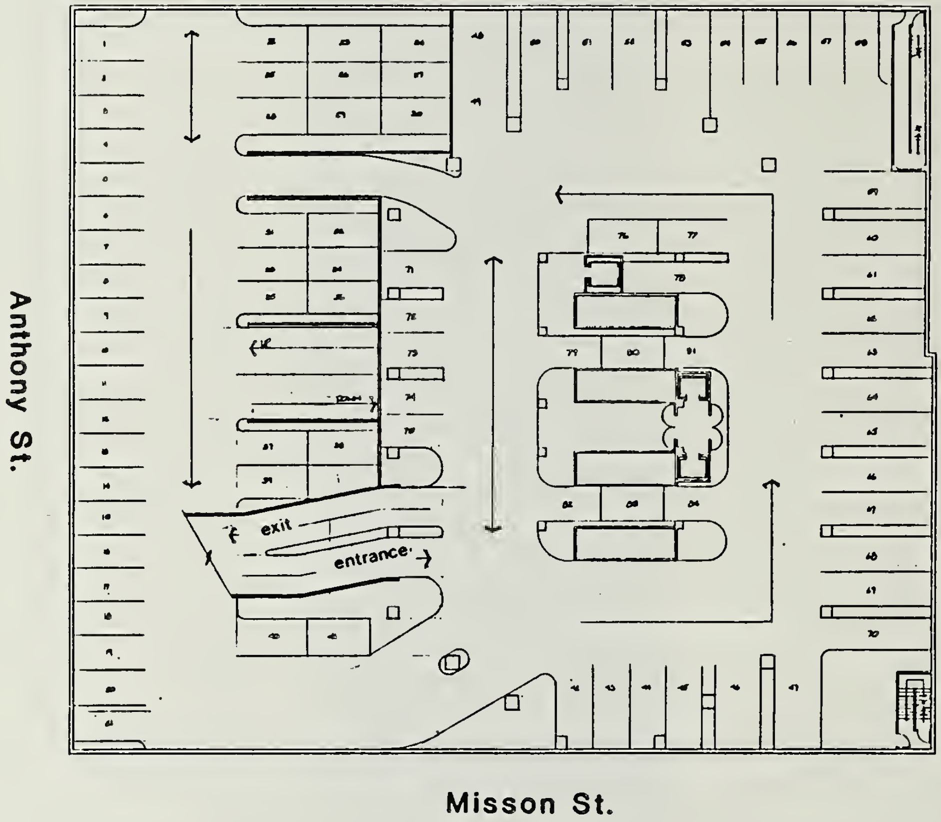
Figure 4

Proposed Project

Anthony St. Elevation (West)

Lincoln Plaza

SOURCE: Bendix Environmental Research Inc. and HOK Architects Inc



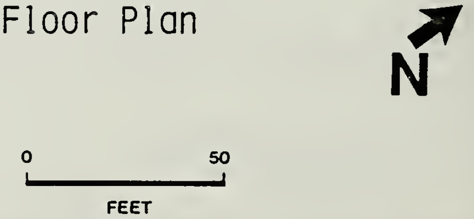
Parking

Figure 5

Proposed Project

Lincoln Plaza

Parking Floor Plan



Source: Bendix Environmental Research, Inc.

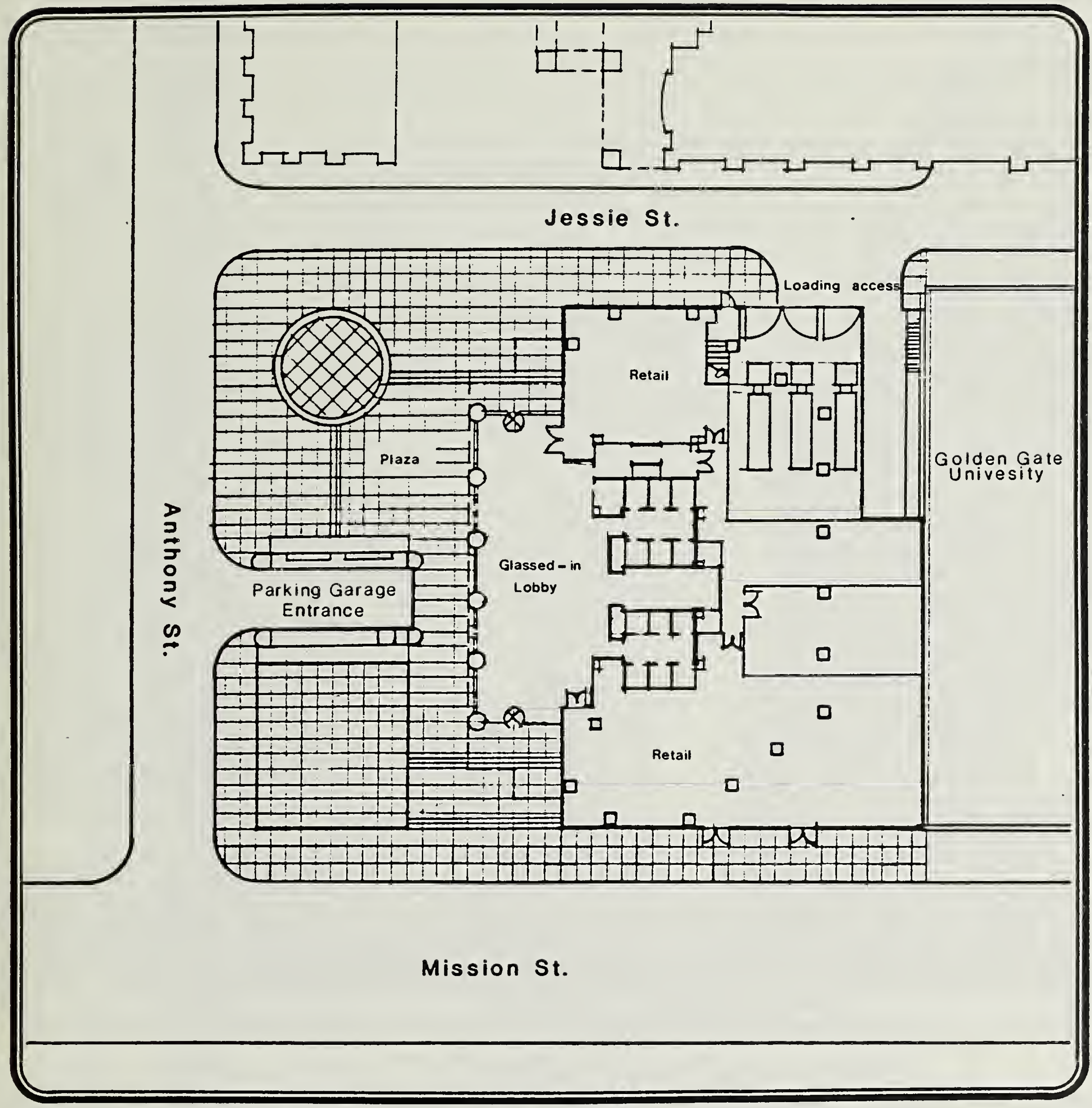


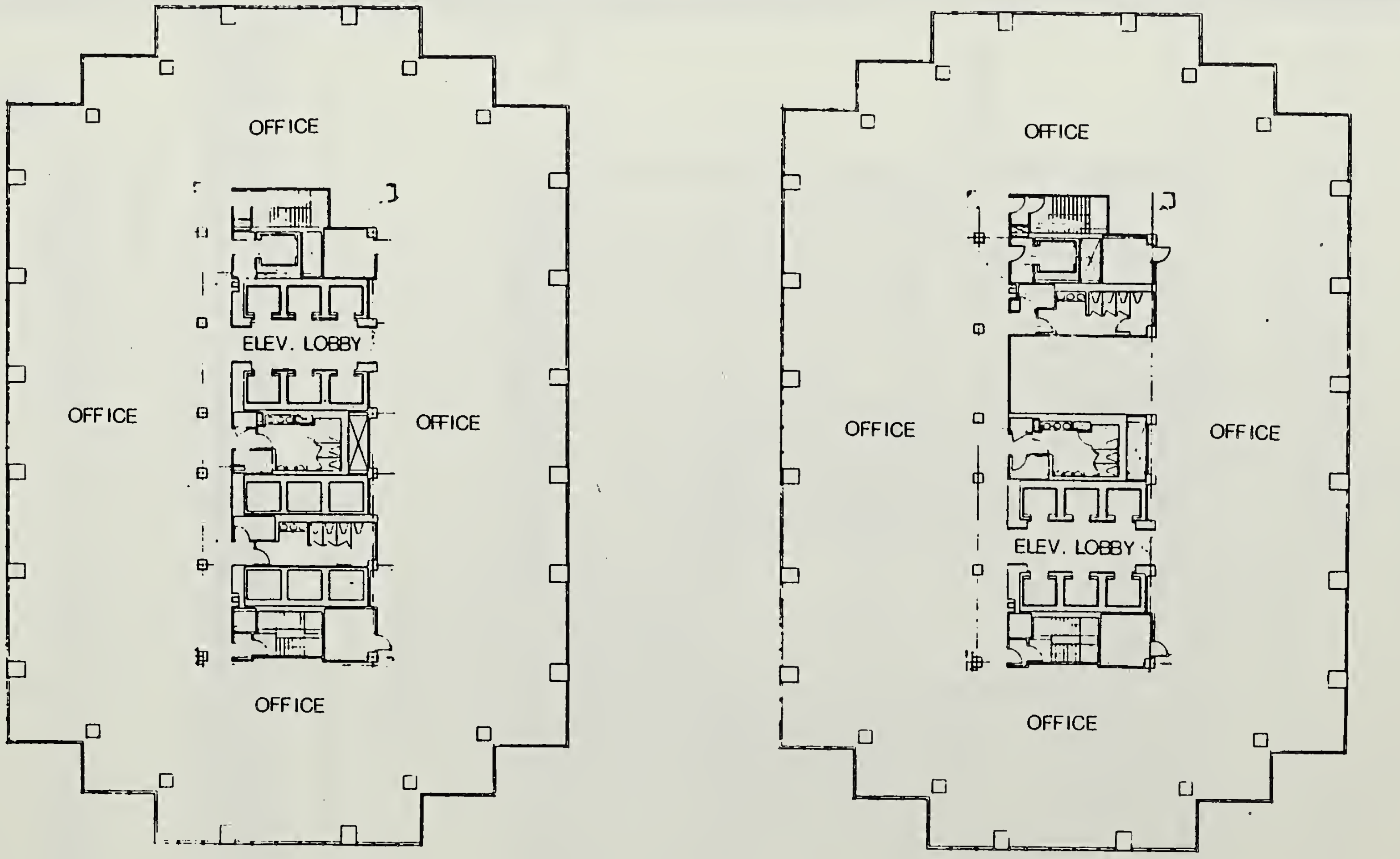
Figure 6

Proposed Project

Lincoln Plaza

Ground Floor and Plaza Plan

Source: Bendix Environmental Research, Inc.



Floors 9-16

Floors 17-29

Figure 7

Proposed Project

Lincoln Plaza

Typical Floor Plans

SOURCE: Bendix Environmental Research Inc. and HOK Architects Inc

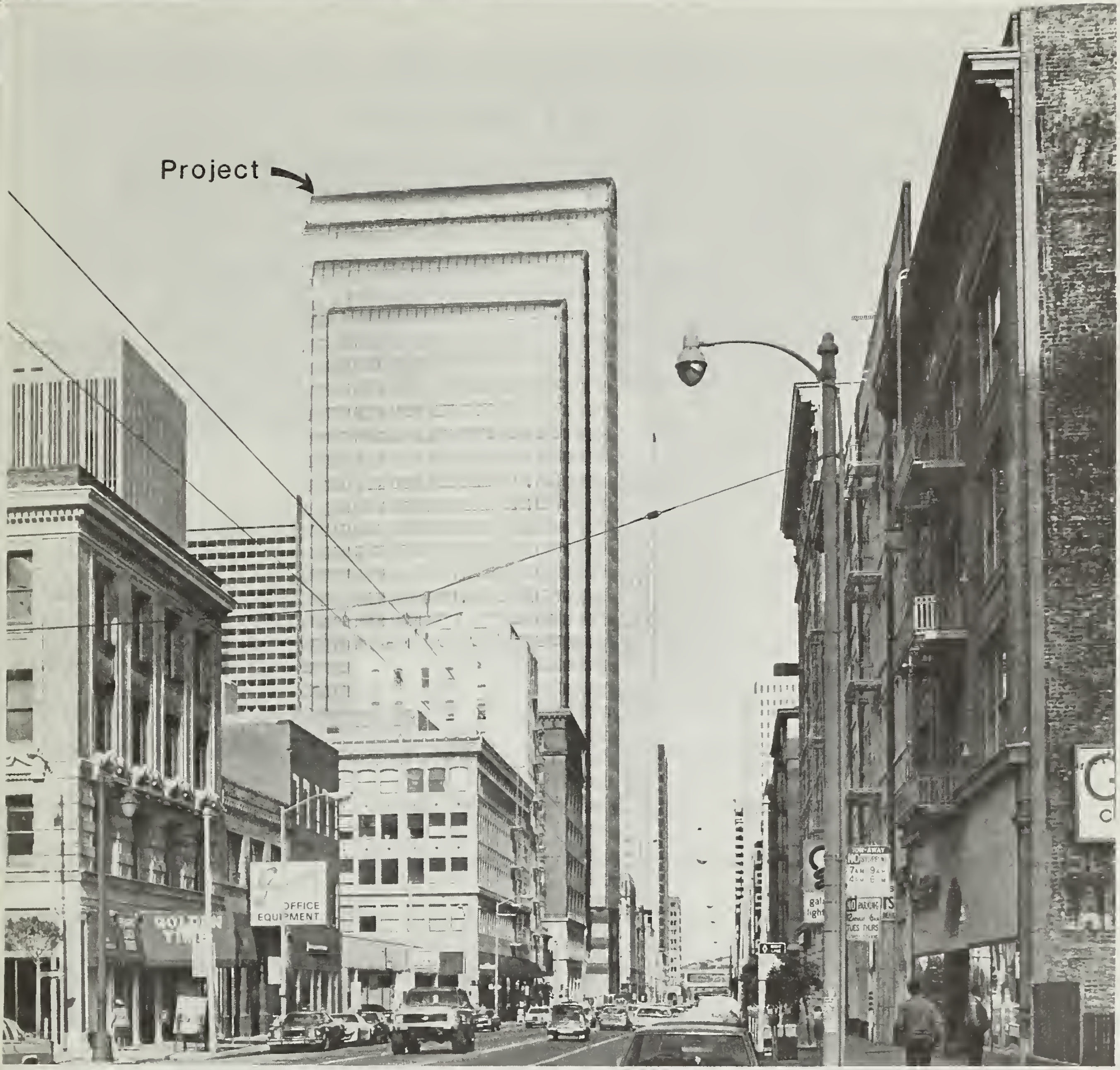


Figure 8 Photomontage Looking East on Mission St. From Mission and New Montgomery Sts.

Lincoln Plaza

SOURCE: Square One Film and Video

subsurface parking lot covers the rest of the site). The six-story buildings would be demolished as part of the proposed project. The diner would be donated to someone who would remove it from the site. See Fig. 9, p. 23, for a photograph of the buildings and Fig. 17, p. 36, for a photograph of the diner. The site is in the C-3-0 (Downtown Office) zoning district in which the maximum permitted floor area ratio (FAR) 14:1. The FAR of the project would be 14:1. The project would be about 453 feet in height, 170 feet in length and about 182 feet diagonally, and would comply with the Height and Bulk controls for the site.

## D. PROJECT APPROVALS

City Planning Commission Resolution No. 8474 established a policy of Discretionary Review of all projects in the Downtown area. Under this policy, the Commission would review the design and environmental impacts of the proposed project and adopt a resolution approving, approving with conditions, or disapproving the project. Discretionary Review for the project would be considered by the Planning Commission after certification of the Final Environmental Impact Report. If the project were approved by the Planning Commission the project sponsor would obtain a demolition permit, followed by the necessary building permits.

The cost of constructing the project would be about $35,000,000 (1983 dollars). The office rents would be about $35/sq. ft./yr., and $40/sq. ft./yr. for retail space.[1]

## E. PROPOSED PROJECT SCHEDULE

Completion of final project design is scheduled late 1983. Based on certification of the Final Environmental Impact Report and approval of the project by the Planning Commission in early 1984, site clearance and demolition would begin in early 1984 and last about two months. Immediately following site preparation would be excavation and foundation work, six months; steel frame erection, five months; exterior finishing, eight months; and interior finishing, two months. Project occupancy is expected in late 1985 or early 1986 based on a total construction period of approximately two years.

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1. Source: Lincoln Property Company, Jim Schafer, letter communication, October 15, 1982.

# CHAPTER III. ENVIRONMENTAL SETTING

## A. LAND USE AND ZONING

The project site is in the southern part of downtown San Francisco (see Figs. 1 and 2, pp. 10 and 11). The site is now used for office, commercial and parking activities. On the corner of Anthony and Mission Sts., on the west side of the site (lot 15, see Fig. 2, p. 11) is a 100-space surface (plus 80 spaces, sub-surface) parking lot. On lot 20, accessible only from Jessie Street, is a metal diner built on the site in 1929. On the east side of the site, on Lots 17 and 18, are two, six-story buildings (see Fig. 9, p. 23). The 562 Mission building (lot 17) was built in 1919. In 1952 it was used as office and wholesale rug warehouse space, and in 1968 the third floor was remodeled for offices and a print shop. By 1970 the rest of the building was converted to office use. In 1924, a one-story glazed metal and concrete bridge was built connecting 562 Mission St. and 66 Jessie St. (see Fig. 12a, p. 27); the bridge is scheduled for demolition for the approved 71 Stevenson project.

The 554-560 Mission building (Lot 18) has been used for retail (1935), offices (since 1947) and sportswear manufacturing uses. The foundation of this building required underpinning at the time of the construction of Golden Gate University in 1977.[1]

These two office buildings have approximately 70,000 gross sq. ft. each, for a total of 140,000 gross sq. ft. Tenants include retail sales

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[1] 562 Mission Permit History, Bendix Environmental Research, Inc. (BERI), Oct. 7, 1982; 554-560 Mission Permit History, BERI, Oct. 13 & 14, 1982; available for public review in the files of the Department of City Planning, Office of Environmental Review, 450 McAllister St., 5th floor.

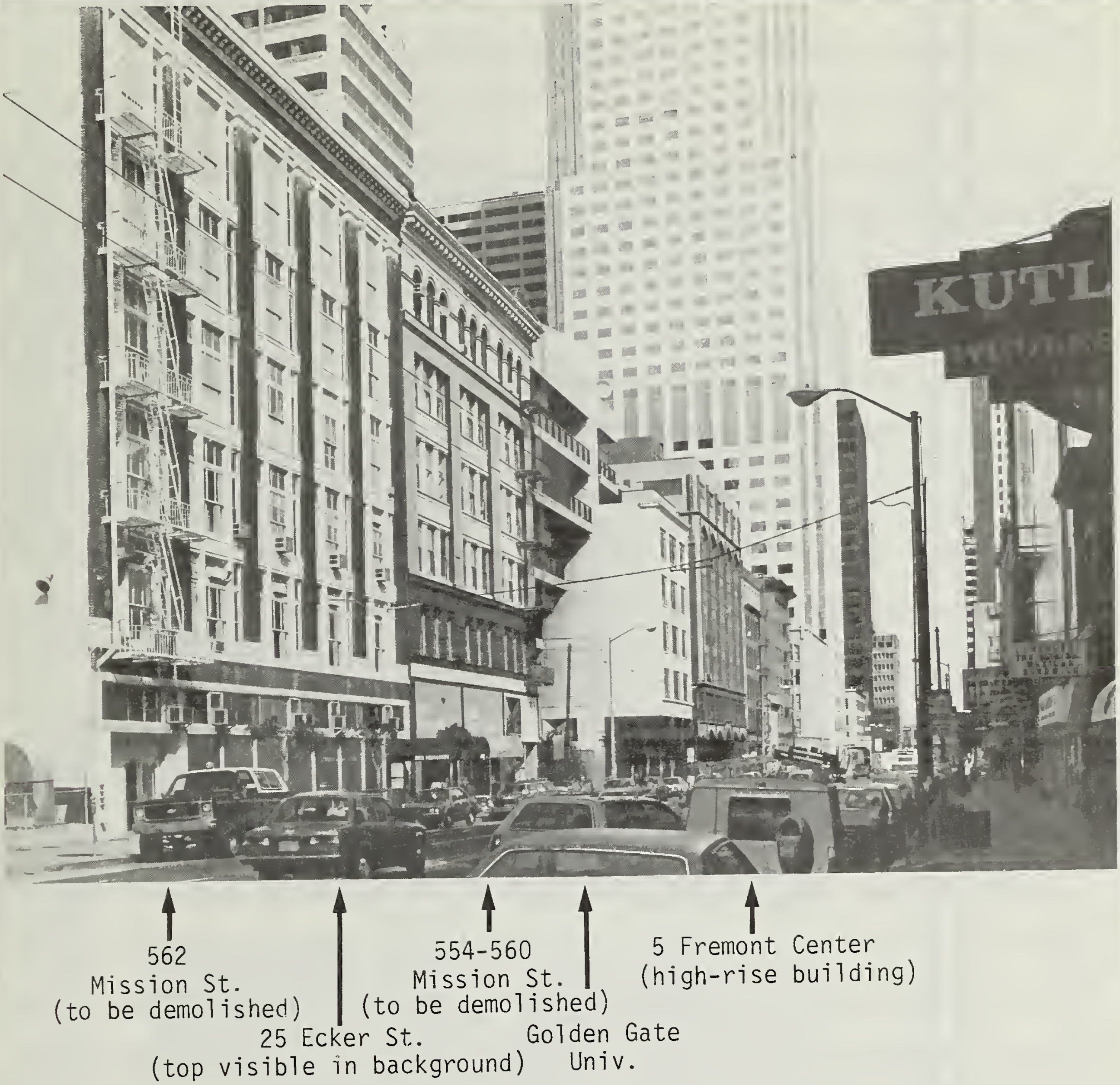
KUTL
562 Mission St. (to be demolished)
25 Ecker St. (top visible in background)
554-560 Mission St. (to be demolished)
Golden Gate Univ.
5 Fremont Center (high-rise building)

Figure 9

Buildings On And In The Vicinity Of Project Site

Lincoln Plaza

Source: Square One Film and Video and Bendix Environmental Research, Inc.

offices, engineering, decorating, reproduction and management firms. Approximately 370 people are employed on the site.[1]

The surrounding land uses are: offices above either ground floor commercial/retail or restaurant/bar uses; Golden Gate University; and parking in surface lots and in structures (Fig. 10, p. 25). The project block along Mission St. contains two-story office/commerical and restaurant buildings, six- and five-story office/commercial buildings, the original five-story and newer (1978) six-story Golden Gate University buildings abutting the site (Fig. 11b, p. 26), and the eight-story granite and brick Pacific Telephone Company building which fronts on Second Street (Fig. 11a, p. 26). On the project block along Mission St., across from the project site, are office/commercial/restaurant and parking uses, ranging from three to six stories (see Fig. 12b, p. 27).

The project block along Jessie Street contains a five-story office building, an 18-story high-rise office building at Jessie and Ecker Streets,[2] a one-story restaurant, and the back of the Golden Gate University building. North of the site, across Jessie Street are a red brick, four-story commercial building; a five-story warehouse; two four-story office/commercial/ manufacturing buildings and the backs of three buildings, a one-story commercial, a two-story parking and a seven-story office/ commercial building. A small City-owned Muni substation stands north of the site fronting on Stevenson St. These buildings are generally built to their lot lines. The 71 Stevenson project will replace the parking structure and warehouse with a 23-story office building.[3]

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[1] Number of workers determined by questionaire distributed by Bendix Environmental Research, Inc. Figures are not exact because numbers of employees fluctuate.

[2] For further information about this building see the Final Negative Declaration for 25 Jessie/Ecker Square, EE 80.34, available for public review at the Department of City Planning, 450 McAllister St., 5th floor.

[3] 71 Stevenson FEIR certified June 16, 1983, 81.493E, available for public review at the Department of City Planning, Office of Environmental Review 450 McAllister Street, 5th floor, San Francisco, CA 94102.

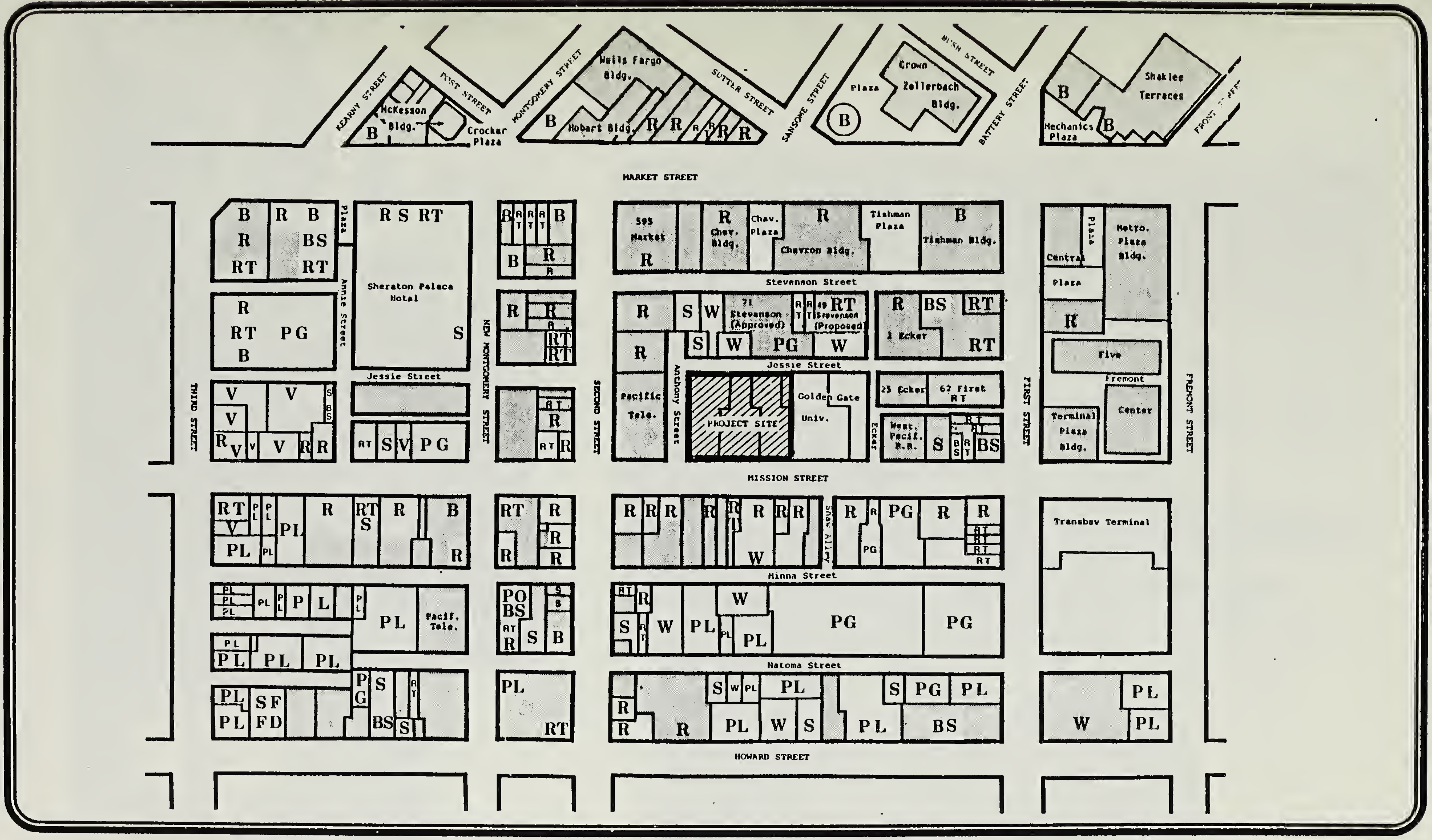


Figure 10

Land Use in the Vicinity of Lincoln Plaza

Source: Bendix Environmental Research, Inc.

| | |
|---|---|
| ▨ | Office Space |

Capitalized Letters
Denote Ground
Floor Uses

B - Bank
BS - Business Service
PG - Parking Garage
PL - Parking Lot
PO - Post Office
FD - S.F. Fire Department

R - Retail
RT - Restaurant
S - Service
V - Vacant
W - Warehouse/Storage

N

Not to Scale

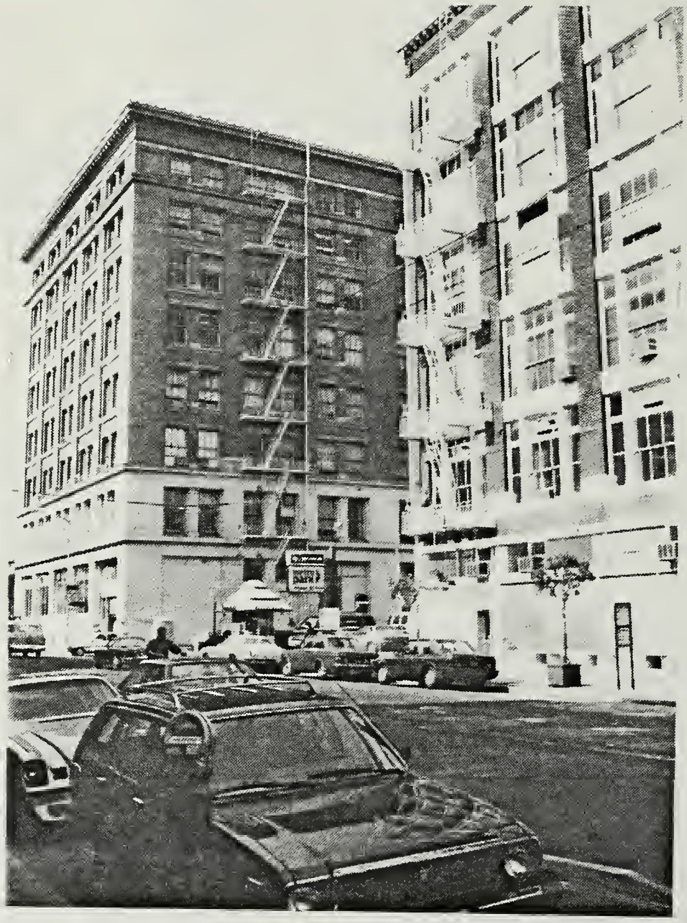


Figure 11a Pacific Telephone Building Mission St. and Anthony St. facades.

Source: Bendix Environmental Research, Inc.

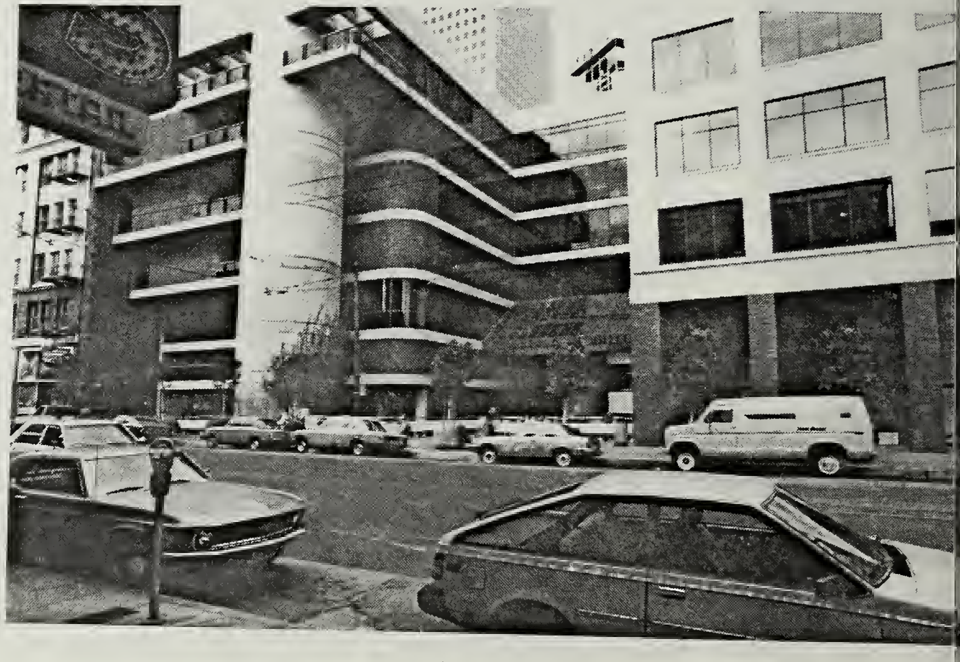


Figure 11b Golden Gate University

Sitting area in front of building. Adjacent to project site.

Source: Bendix Environmental Research, Inc.

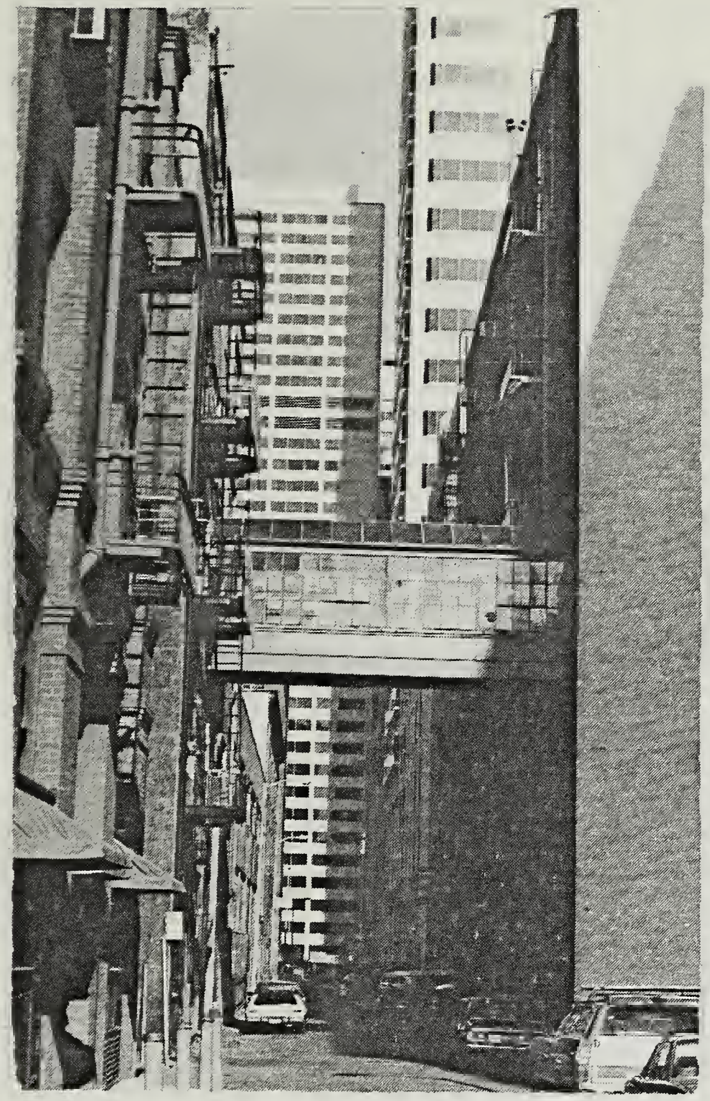
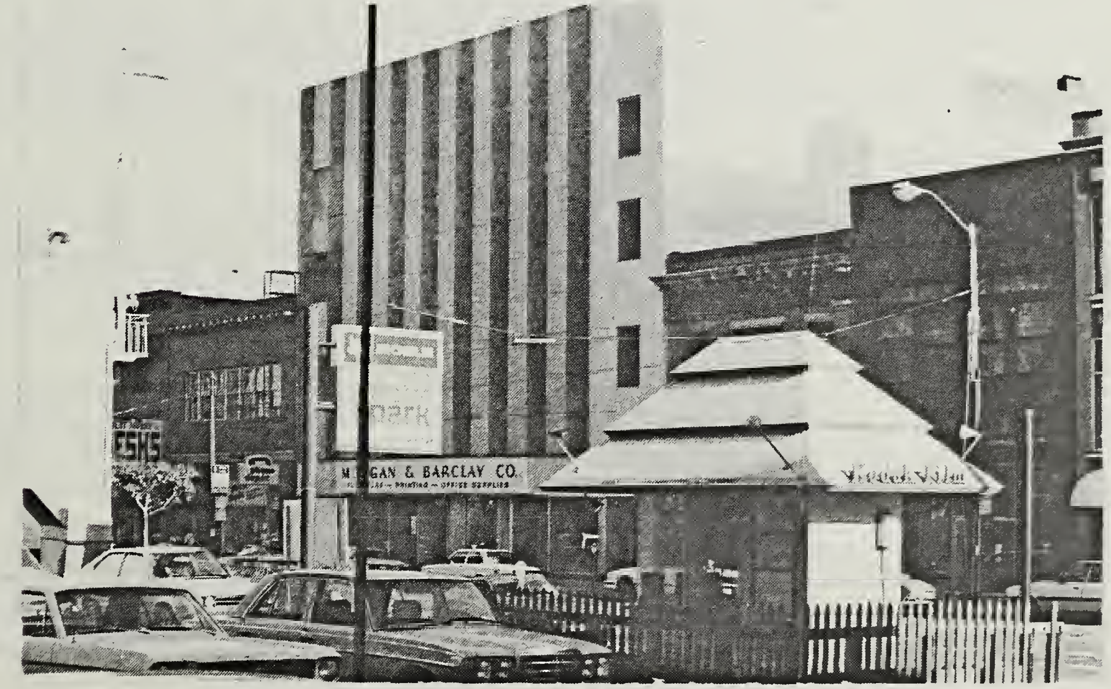


Fig. 12a

View east down Jessie St. of buildings accross from project site and bridge connecting 562 Mission St. and 66 Jessie St. buildings.

Fig. 12b

View of buildings across from the project site on Mission St.



The project is in the C-3-0 (Downtown Office) District and in the 600-I Height and Bulk District, (Figs. 13 and 14, pp. 29 and 30). The C-3-R (Downtown Retail) District begins two blocks west, at Third St. The C-3-S (Downtown Support) District begins less than one block south, at Natoma St. Fig. 15, page 31 shows other office projects under construction, approved or under formal review within the vicinity of Lincoln Plaza.

## B. ARCHITECTURAL RESOURCES[1]

According to the 1853 United States Survey Chart[2], the project site was approximately one and one half blocks west of the original shore of San Francisco Bay. While it is difficult to be certain, if any portion of the project site was built upon, it would have been only Lot 18 which is presently occupied by the Dalziel Building at 554-560 Mission; the remainder of the site was vacant. That same chart shows an unnamed street in the same location as the present Anthony St. By the time of the 1857-1859 United States Coast Survey, the site was covered by construction except for a small interior space which could have been a courtyard.

The project site contains three buildings, the Dalziel Building at 554-560 Mission Street, the D. N. & E. Walter Building at 562 Mission St. and the 57 Jessie St. diner. All of these buildings were rated in an architectural and historical survey of the downtown area sponsored by the Foundation for San Francisco's Architectural Heritage (Heritage), published

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[1] Much of this section is based on a report from G. Bland Platt, historical subconsultant to the EIR consultant, December 1982, which is on file with the Department of City Planning, 450 McAllister St., 5th. floor.

[2] Olmsted, Roger and Nancy and Pastron, Allan, San Francisco Waterfront: Report on Historical Cultural Resources for the Northshore and Channel Outfalls Consolidation Project, prepared for the San Francisco Wastewater Management Program, December 1977, pp. 29-30.

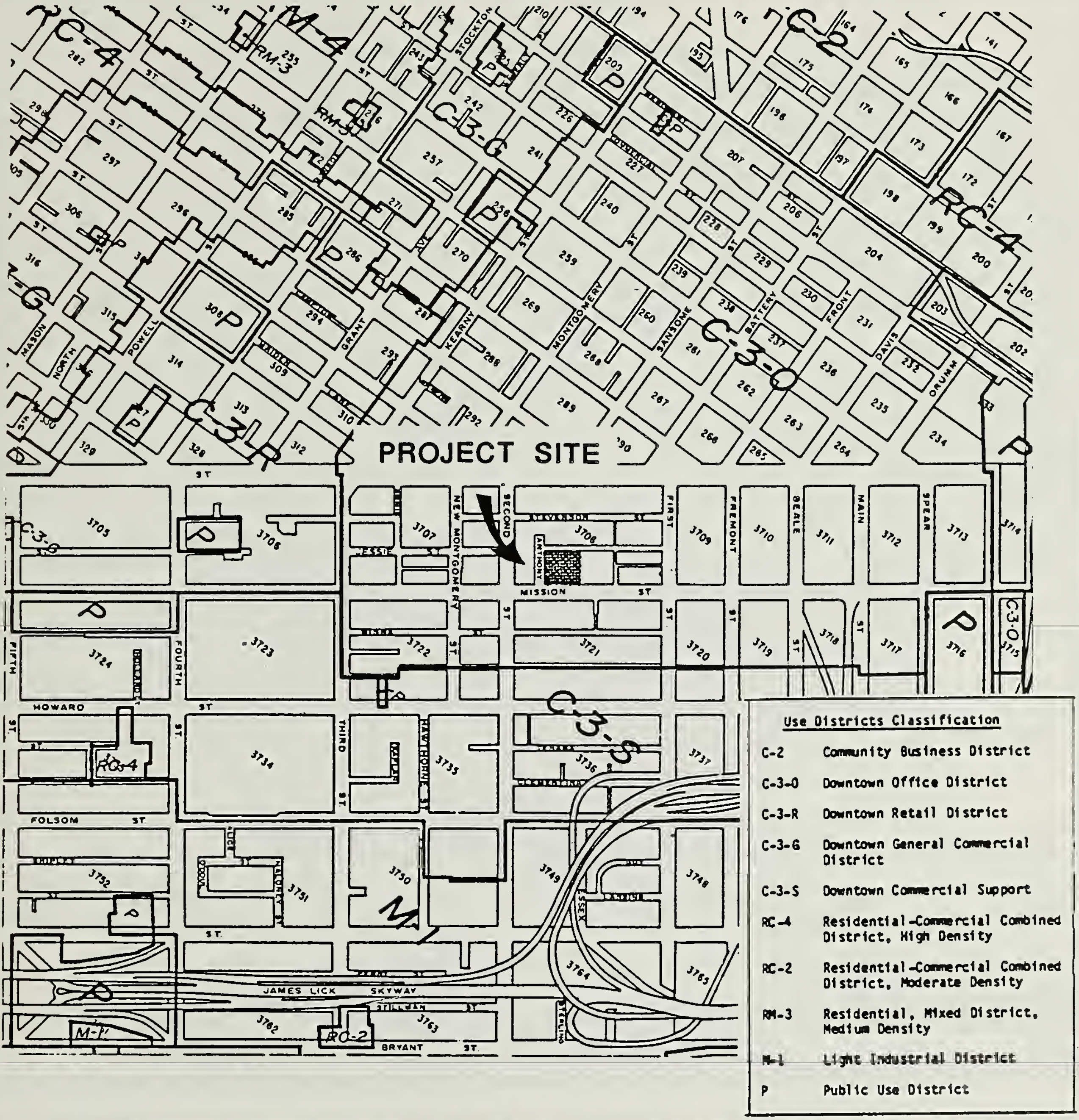

PROJECT SITE
C-2
RC-4
C-3-G
C-3-O
C-3-R
C-3-S
RM-3
M-1
P
RC-2
STOCKTON
MASON
POWELL
GRANT
KEARNY
MONTGOMERY
SANSOME
BATTERY
FRONT
DAVIS
DRUMM
NEW MONTGOMERY
SECOND
FIRST
FREMONT
BEALE
MAIN
SPEAR
ANTHONY
STEVENSON
JESSIE
MISSION ST
HOWARD
FOLSOM ST
FIFTH
FOURTH
THIRD
HAWTHORNE ST
ESSEX
STERLING
JAMES LICK SKYWAY
STILLMAN
BRYANT ST
Use Districts Classification
C-2 Community Business District
C-3-O Downtown Office District
C-3-R Downtown Retail District
C-3-G Downtown General Commercial District
C-3-S Downtown Commercial Support
RC-4 Residential-Commercial Combined District, High Density
RC-2 Residential-Commercial Combined District, Moderate Density
RM-3 Residential, Mixed District, Medium Density
M-1 Light Industrial District
P Public Use District

Figure 13

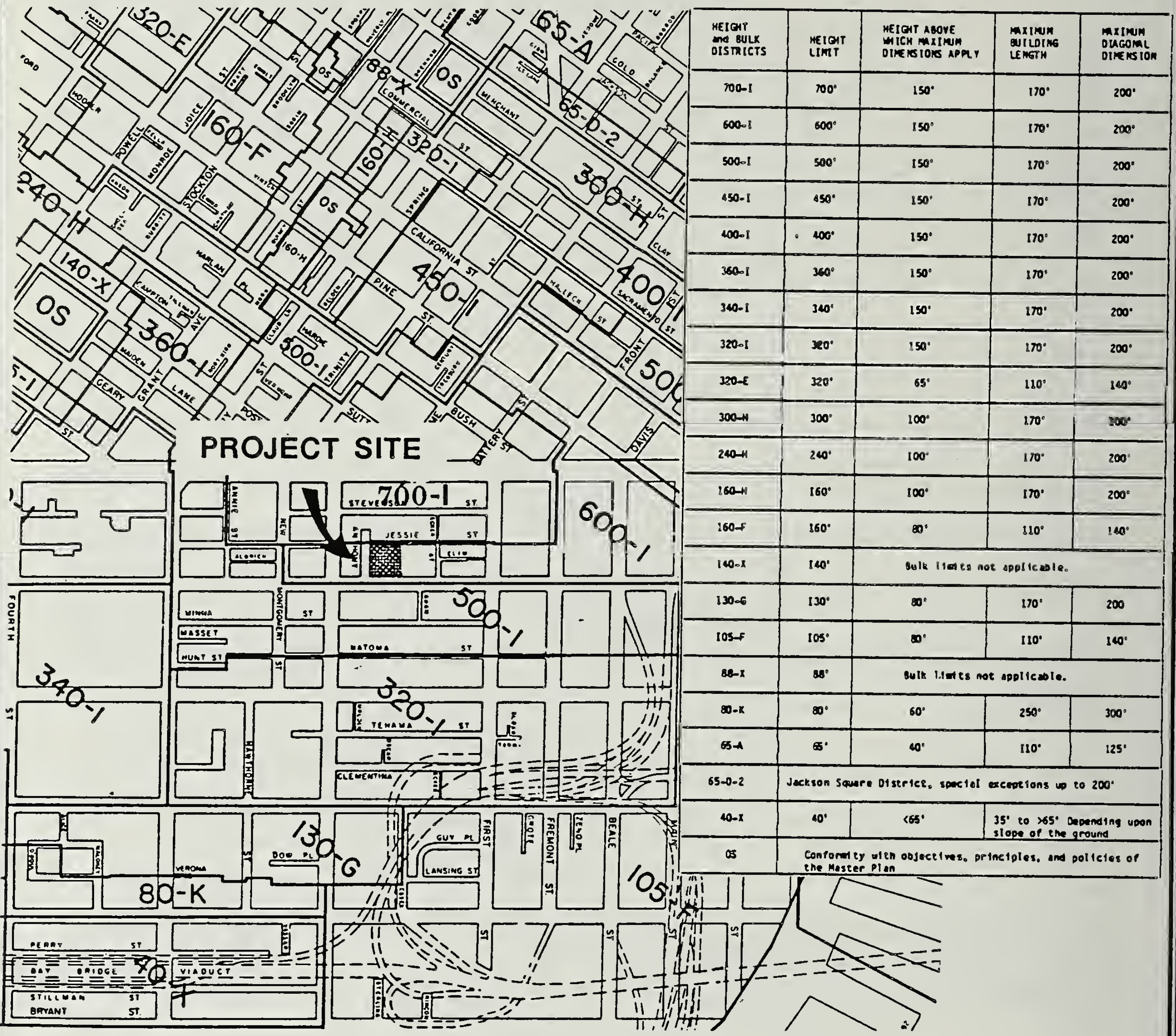
Planning Code Use Districts in the Vicinity of Lincoln Plaza

N

Source: Bendix Environmental Research, Inc.

PROJECT SITE ▨

1" = 900'



| HEIGHT and BULK DISTRICTS | HEIGHT LIMIT | HEIGHT ABOVE WHICH MAXIMUM DIMENSIONS APPLY | MAXIMUM BUILDING LENGTH | MAXIMUM DIAGONAL DIMENSION |
|---|---|---|---|---|
| 700-I | 700' | 150' | 170' | 200' |
| 600-I | 600' | 150' | 170' | 200' |
| 500-I | 500' | 150' | 170' | 200' |
| 450-I | 450' | 150' | 170' | 200' |
| 400-I | 400' | 150' | 170' | 200' |
| 360-I | 360' | 150' | 170' | 200' |
| 340-I | 340' | 150' | 170' | 200' |
| 320-I | 320' | 150' | 170' | 200' |
| 320-E | 320' | 65' | 110' | 140' |
| 300-H | 300' | 100' | 170' | 200' |
| 240-H | 240' | 100' | 170' | 200' |
| 160-H | 160' | 100' | 170' | 200' |
| 160-F | 160' | 80' | 110' | 140' |
| 140-X | 140' | Bulk limits not applicable. | | |
| 130-G | 130' | 80' | 170' | 200 |
| 105-F | 105' | 80' | 110' | 140' |
| 88-X | 88' | Bulk limits not applicable. | | |
| 80-K | 80' | 60' | 250' | 300' |
| 65-A | 65' | 40' | 110' | 125' |
| 65-D-2 | Jackson Square District, special exceptions up to 200' | | | |
| 40-X | 40' | <65' | 35' to >65' Depending upon slope of the ground | |
| OS | Conformity with objectives, principles, and policies of the Master Plan | | | |

Figure 14

Planning Code Height and Bulk Districts in the Vicinity of Lincoln Plaza

N

PROJECT SITE ▨

1" = 900'

Source: Bendix Environmental Research, Inc.

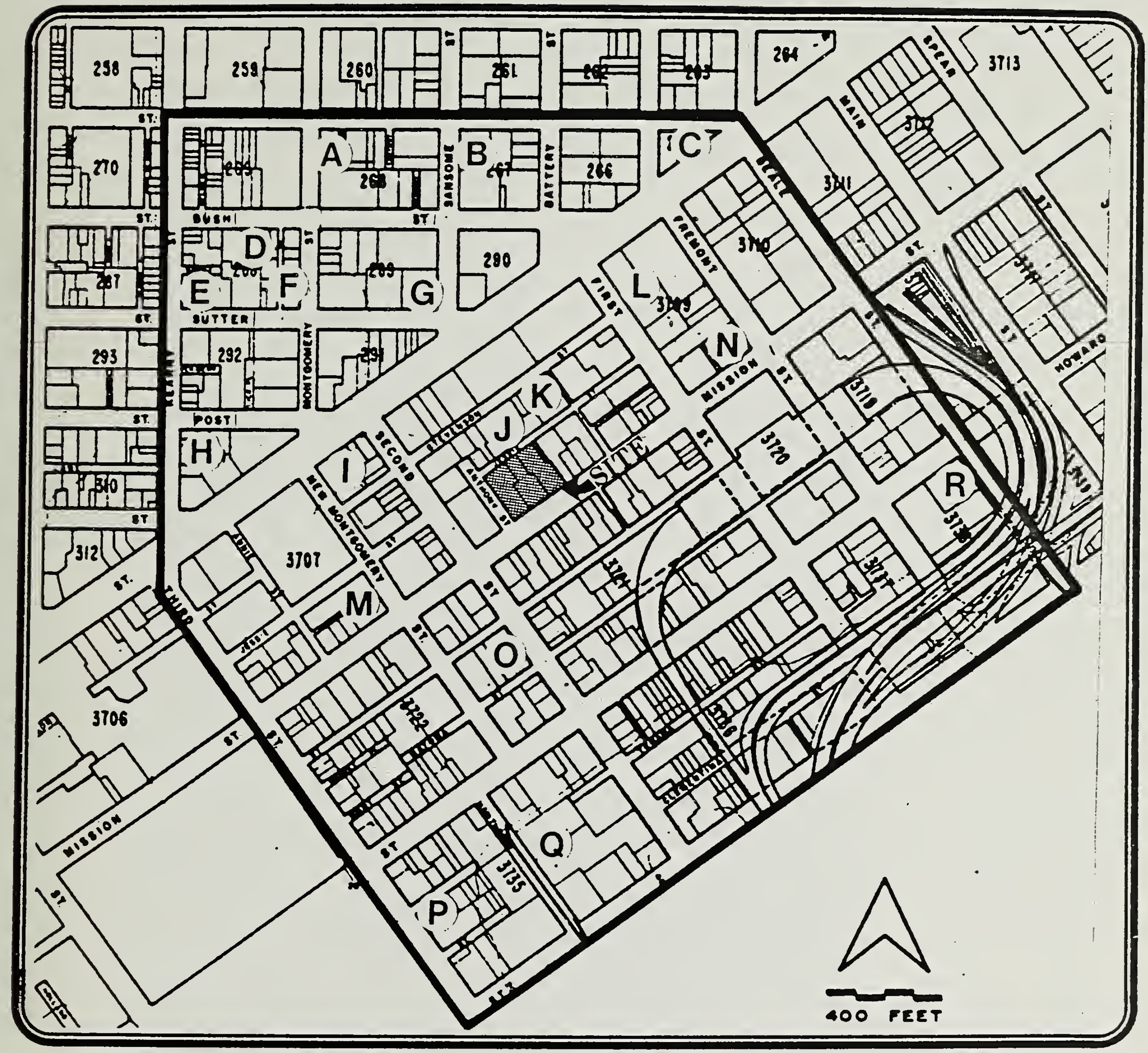


Figure 15 Projects Under Formal Review, Approved, or Under Construction in the Vicinity of Lincoln Plaza

| | Project | EE Number | | Project | EE Number |
|---|---|---|---|---|---|
| A | 250 Montgomery/Pine | 81.422 | J | 71 Stevenson | 81.493 |
| B | 160 Sansome | 81.241 | K | 49 Stevenson | 83.75 |
| C | 388 Market/Pine | 81.195 | L | Central Plaza | 81.113 |
| D | 333 Bush | 81.461 | M | 90 New Montgomery | 81.492 |
| E | 222 Kearny/Sutter | 81.687 | N | 5 Fremont Center | 80.268 |
| F | 101 Montgomery | 80.26 | O | 144 Second/Minna | 81.417 |
| G | 1 Sansome | 78.334 | P | Yerba Buena Red. Area | 77.220 |
| H | S.F. Federal | 82.10 | Q | 95 Hawthorne | 80.106 |
| I | New Montgomery Plaza | 80.355 | R | 315 Howard | 79.196 |

Source: Bendix Environmental Research, Inc.

in 1979 as Splendid Survivors.[1] All buildings in the survey were evaluated against specific criteria and rated from a high of "A" to a low of "D".

The D. N. & E. Walter Building (562 Mission St.) originally received a "B"-rating in the 1979 Heritage survey.[1] Heritage considers B-rated buildings to be "of individual importance by virtue of architectural, historical, and environmental criteria."

According to Michael Corbett, an author of Splendid Survivors and presently Heritage's architectural historian, the D. N. & E. Walter Building rating was based on its structural system, specifically its mushroom column construction (see Fig. 16, p. 33). The 1919 construction date of the Walter Building was the earliest example of this particular construction system Mr. Corbett had encountered in San Francisco. In 1983 the 400 Second St. and the 888 Brannan St. buildings were found to have used this same structural system. Both of these buildings used mushroom columns and were built in 1917, two years earlier than the Walter building. In July 1983, based on the above information, Heritage revised its rating of the Walter building from "B" to "C".[2] Heritage considers "C" rated buildings to be of contextual importance. See Appendix II, p. A-27, for additional information about mushroom column construction.

Architecturally, the Walter (562 Mission) building is an example of post-fire San Francisco architecture (see Fig. 9, p. 23). A reinforced concrete building faced with brick on its Mission St. facade, it has stamped metal ornamentation with a Greek key motif at the outside edges of the

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1. Charles Hall Page & Associates, The Foundation for San Francisco's Architectural Heritage, Splendid Survivors, California Living Books, 1979.
2. Letter from Michael Corbett to Bendix Environmental Research, Inc., July 25, 1983.

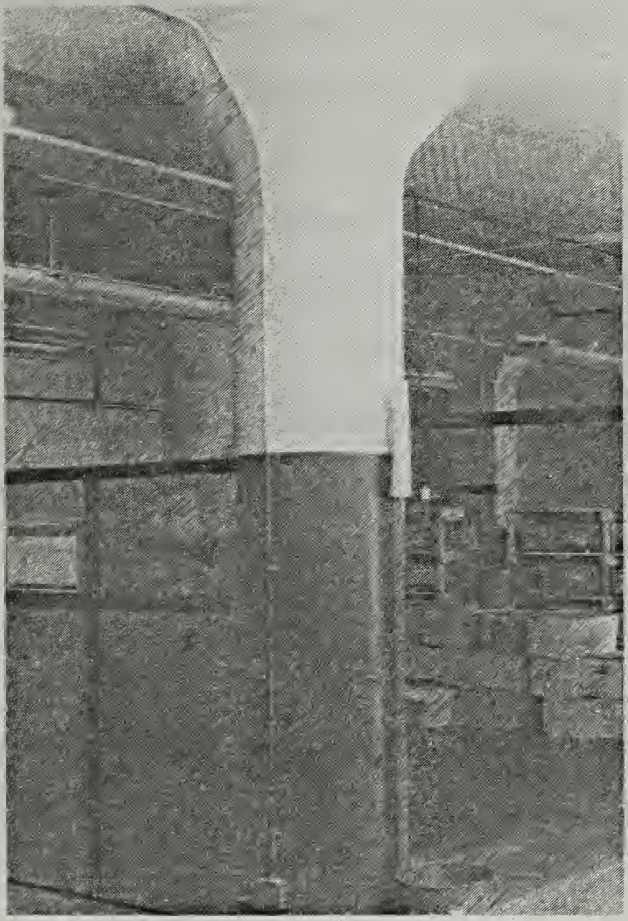

Figure 16 Dropped Panel-Mushroom Column

Structural support system of the D. N. & E. Walter Building at 562 Mission Street.

Source: Bendix Environmental Research, Inc.

building. Brick pilasters[1] divide the second through sixth floors into five equal vertical parts, corresponding to the structural bays of the mushroom column system. Capitals and bases of the pilasters are implied by simplified moldings. The spaces between the red brick pilasters are filled by floor-to-ceiling tripartite window groupings with operable wood frame windows.

The spandrels,[2] cornice and ornament at the ground floor level are of stamped metal. The building is topped by a bracketed cornice, also of stamped metal. The side and rear walls are of exposed concrete, and the windows in these walls are industrial, metal-frame factory sash. On the Jessie St. facade, a one-story glazed metal and concrete bridge connects the reinforced concrete warehouse (constructed in 1924) at 66 Jessie St. to the 562 Mission St. building. The bridge, which belongs to the owners of 66 Jessie St, is rated "C" by Heritage and not rated by the Dept. of City Planning. The bridge will be removed during demolition and site clearance for the 71 Stevenson project (see Fig 12a, p. 27, for photograph of bridge).

The Dalziel Building (554-560 Mission St.) is rated "C" for its contextual importance as part of the streetscape. According to Heritage, "C"-rated buildings "are distinguished by their scale, materials, compositional treatment, cornice, and other features. They provide the setting for more important buildings and they add visual richness and character to the downtown area." (all quotes from Splendid Survivors)

The Dalziel Building is a six-story plus basement commercial loft building constructed in 1907 (see Fig. 9, p. 23). The structure consists

---

1. Pilaster = A decorative building surface element that looks like a column but is not a supporting structure. It may be constructed as a projection from a wall, as in this case.
2. Spandrel = In a multi-story building, a wall panel filling the space between the top of the window in one story and the window sill in the story above.

of load-bearing brick exterior walls and a wood-framed floor supported at intermediate points by a standard post and beam system (the posts of the top floor are wood; those below are iron). The post system divides the building into three bays and the front and rear facades are organized with elements in groups of three. The four cast iron pilasters which were the primary ornamental elements of the original building remain in place. The windows of the top floor on the Mission St. elevation are arched, and the top of the building is terminated by a classically derived cornice. The ground floor has been altered by a succession of commercial tenants.

Neither the D. N. & E. Walter nor the Daziel building was rated in the Department of City Planning's 1976 Architectural Inventory, nor was either discussed in the Junior League of San Francisco's architectural and historical survey conducted between 1963 and 1968 and published in 1968 as Here Today - San Francisco's Architectural Heritage.

A small, prefabricated metal diner is located on the east side of the site on a lot with a 15 ft. frontage (Fig. 17, p. 36). The diner was built in 1929 to the design of Thomas Davis, who prefabricated diner components and then assembled a variable kit of parts tailored to suit specific sites in an area stretching from Santa Cruz to the Russian River. The diner is one of two remaining in San Francisco, the other being the Grubstake resttaurant at 1525 Pine St, which has been altered.

The project block includes one building rated "A" by Heritage, the former Wells Fargo Building directly west of the project site, across Anthony St. The Department of City Planning rating is "2." Built in 1902 from designs by San Francisco architects Meyers and Ward and gutted in 1906, the building was rebuilt under the supervision of the original architects, who added two floors. The California Supreme Court occupied the top floor;

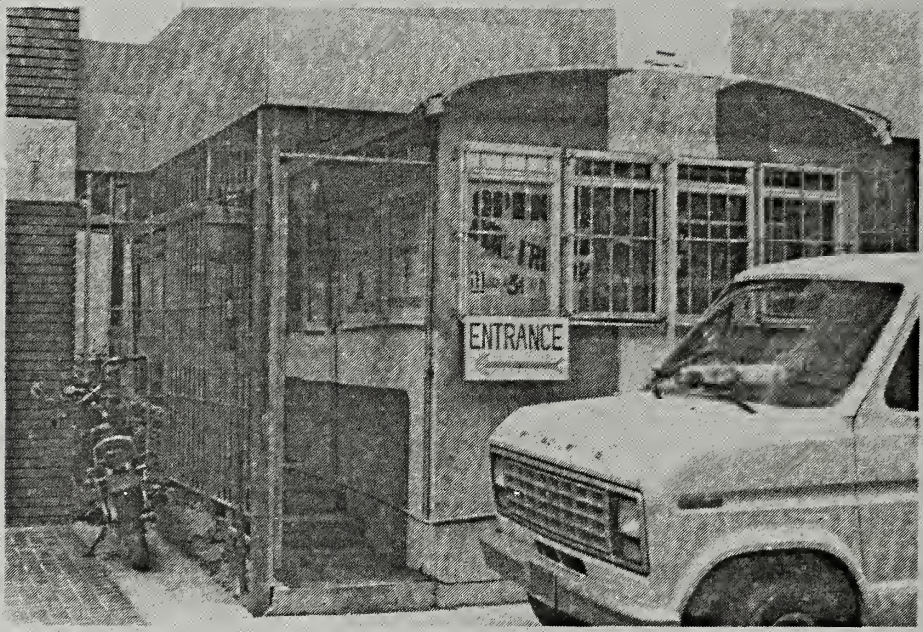

Figure 17. Jessie Street Diner

Source: Bendix Environmental Research, Inc.

the first floor and basement were used by Wells Fargo. The building is now owned and occupied by Pacific Telephone Co. According to Splendid Survivors, "The building is a three part vertical block in composition, with restrained Renaissance ornamention. The two-story base is clad in granite." The east side of the building, visible from the project site, continues the same horizontal design lines and proportions as the Second and Mission St. frontages of the building. Exterior building materials are the same on all four sides.

One Ecker Place, the brick and iron post building at 16-30 Jessie St. received a "B" rating in the Heritage survey; it was not rated in the Department of City Planning inventory. It was constructed in 1906 and renovated in 1972. See Fig. 18, p. 38, for the location of the buildings discussed herein with respect to the project site.

The California Farmer Building at 83 Stevenson Street also received a "B" rating from Heritage and was rated "1" in the Department of City Planning Inventory (Building 6 on Fig. 18, p. 38). Designed by Willis Polk, the building is constructed of brick and is "a hybrid composition with a loggia[1] treated as the base of a pedimented[2] temple front." Ornamentation is Renaissance/Baroque and "includes an iron eagle at the peak of the pediment." (Quotes are from Splendid Survivors). It was originally used as a Post Office.

The steel frame, brick clad warehouse at 96 Jessie St. directly north of the project site was rated "2" by the Department of City Planning and "C" by Heritage. Constructed in 1909, its ornamentation is simple, with horizontal courses of protruding bricks.

---

[1] Loggia = A porch or gallery, open on one or more sides, attached to a larger structure.

[2] Pediment = In Classical architecture, the triangular gable end of the roof. In later architecture, ornament over doors or windows; usually triangular but may be curved.

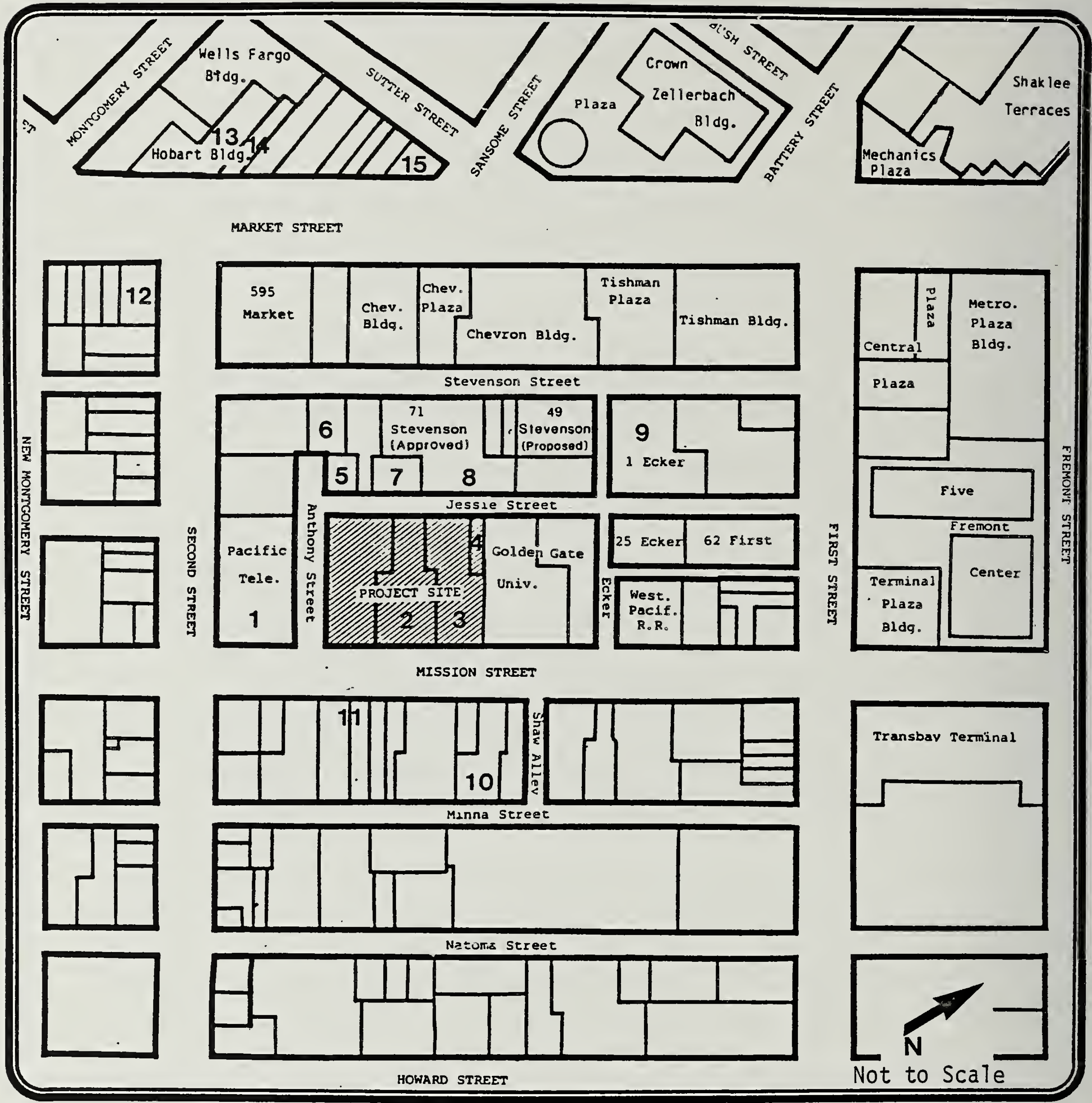

Figure 18

Architecturally Rated Buildings in the Vicinity of Lincoln Plaza

* This rating refers to the building to be demolished for the 71 Stevenson project.

Source: Bendix Environmental Research, Inc.

| | | Heritage Rating | DCP Rating |
|---|---|---|---|
| 1. | Pacific Telephone | A | 2 |
| 2. | D.N. & E. Walter | C | - |
| 3. | Daziel | C | - |
| 4. | Jessie St. Diner | C | - |
| 5. | 96 Jessie | C | - |
| 6. | California Farmer | C | - |
| 7. | 64 Jessie | C | - |
| 8. | 71 Stevenson* | C | - |
| 9. | 1 Ecker | B | - |
| 10. | 549-551 Mission | B | 1 |
| 11. | 571-575 Mission | C | 1 |
| 12. | 601-605 Market | B | 1 |
| 13. | Hobart Building | A | 5 |
| 14. | 576-580 Market | A | 4 |
| 15. | 540-548 Market | B | - |

Across Mission St. to the south of the project site, all but two of the buildings on the project block are rated by Heritage. Of those rated, all received "C" ratings noting their contextual significance, except for the building at 549-551 Mission which received a "B" rating as well as a "1" from the Department of City Planning. Possibly constructed in 1905, the building at 549-551 Mission St. is considered "a handsome example of a two part small commercial block with a skeletal brick facade and inset window framing." Its architectural significance is enhanced by the fact that it appears to have survived the 1906 earthquake and fire. The only other building on this block frontage rated by the Department of City Planning Architectural Survey is 571-575 Mission, rated "1" with a Heritage "C" rating. For locations of the buildings mentioned in this paragraph, see Fig. 18, p. 38.

The New Montgomery-Second Street Conservation District proposed in the Downtown Plan[1] abuts the site along Anthony St.

## C. URBAN DESIGN

Mission St., between First and Second Sts. (the project block) is an active area with generally continuous vehicular and pedestrian traffic.

The view looking east on Mission St. from Second St. is framed by two office buildings, the Five Fremont Center and the Pacific Gateway buildings and other development farther east on Mission St. (see Fig. 9, p. 23) The view northwest, across the project site, is composed of several levels: the six-story buildings on the project block dominate, high-rise office development on Market St. fills the near background, and farther in the distance is the financial distcict office development. About three blocks to the west and just north of Mission St. is the recently completed Meridian Hotel. From Jessie St. near the corner of Anthony St. the relatively low-rise development of south of Market is seen across the surface parking lot on the site. The project block is transitional between the high-rise development of Market St. and the lower scale development south of Market. Building heights in the area are shown on Fig. 19, p. 41.

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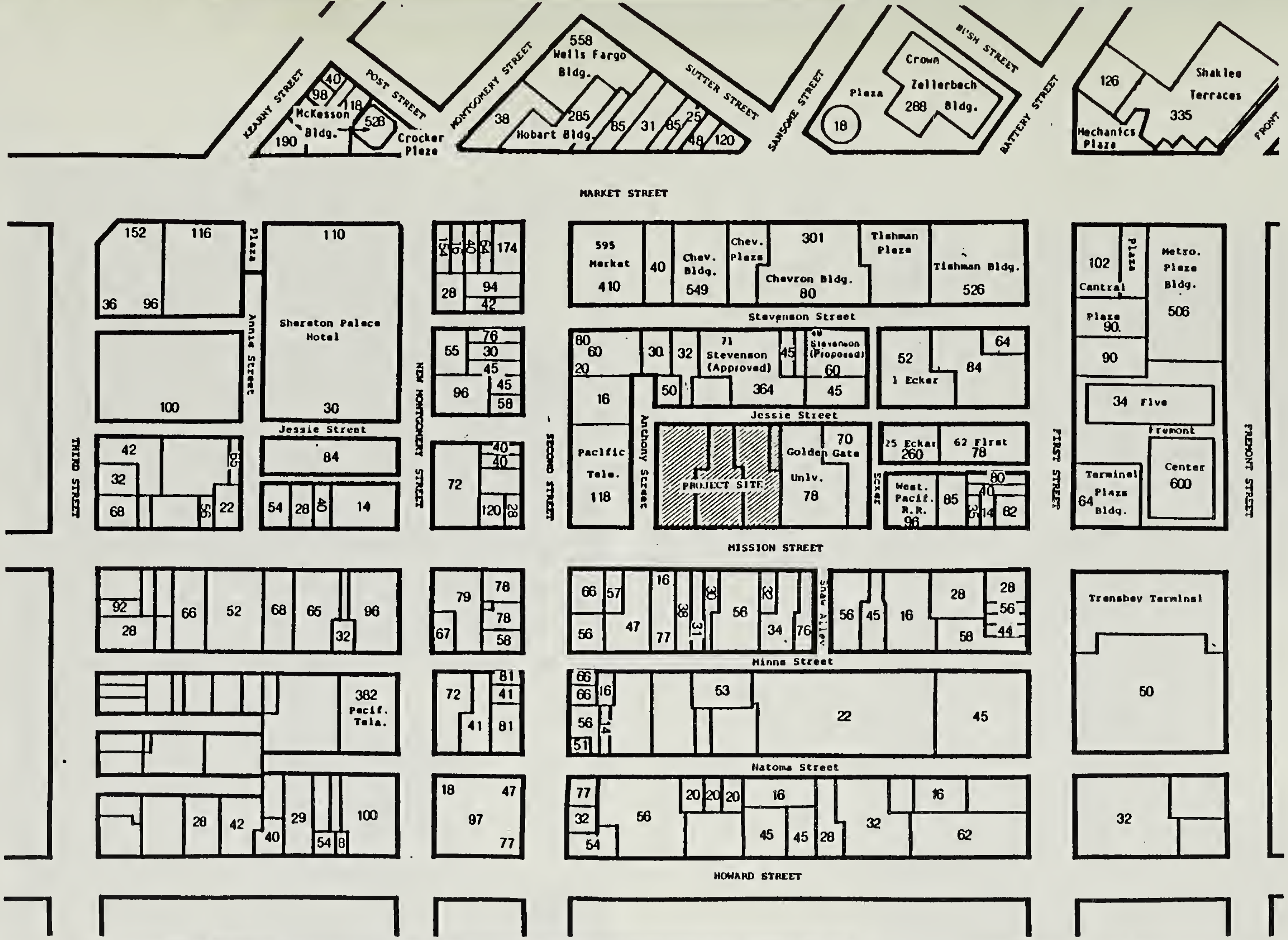
[1] Department of City Planning, The Downtown Plan, August, 1983, Map 12, p. 67 and discussed on p. 75.

The arched windows and arcades of the buildings on and near the corner of First and Mission Sts. serve as a visual transition to the more curvilinear architecture of Golden Gate University, which is the newest occupied development on the project block and abuts the project site on the east. Simple vertical and horizontal lines are prominent in the design of the buildings on the site, except for the arched windows of the top floor of the 554-556 Mission (Dalziel) Bldg. (Fig. 9, p. 23). The 560-562 Mission (Walter) Bldg. is a reinforced concrete building faced with brick on its Mission St. facade and a stamped metal cornice (see previous section and pp. 59 for discussion of Architectural Resources).

Commercial/retail is the dominant first floor use on the south side of Mission St. The view south is more open than north because the buildings are lower on the south side of Mission (two-six stories) and there is less high-rise development to the south (see Fig. 23, p. 66).

Both sides of Mission St. have intermittently spaced trees from First St. to the west border of the project site; after this point there is no street planting. Trees, in conjunction with the curved benches, red brick entryway and undercut front of Golden Gate University form an area used by students and office workers particularly during the lunch hour, and at other times of the day.



## Figure 19 Building Heights Measured in Feet in the Vicinity of Lincoln Plaza

Source: Bendix Environmental Research, Inc.

Not to Scale

Open space areas within a block of the site include the bus/taxi stop and planted areas in front of the Transbay Terminal on Mission St. between First and Fremont Sts.; a private garden between the Chevron Oil Buildings on Market St., between First and Second Sts. which is a visual open space only as it is inaccessible; and the red brick public walkway/plaza between the Chevron Oil and Tishman Buildings on Market St. (see Figs. 20a, 20b, p. 43). This public walkway connects to Ecker St., which continues with vehicular traffic to Mission St.

Most of the public open space within 1,600 ft. of the site is to the north (Figure 21, p. 44), much of it along or connecting to Market St. Many of these spaces, especially unshaded areas near the intersections of Montgomery and Battery Sts. with Market St., are heavily used at noon and during commute hours.[1] The area to the south of the site has relatively few public open spaces. A usable open space covering most (1.75 acres) of the block between First and Fremont Sts. south of Howard St. (about 2 blocks from the proposed project) is proposed in the Downtown Plan (p. 51).

## D. EMPLOYMENT, HOUSING AND FISCAL CONSIDERATIONS

### On-site Employment

Businesses on the site are estimated to employ about 370 persons.[2] Approximately 120 people work at the engineering firms on-site, 95 work at the architectural firms, 115 work in corporate or bank offices, and 43 work for service businesses in the buildings.

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[1] Field Observation by Bendix Environmental Research, Inc., Friday, March 19, 1982.

[2] Number of workers determined by questionnaire distributed by Bendix Environmental Research, Inc. Figures are not exact because numbers of employees fluctuate.

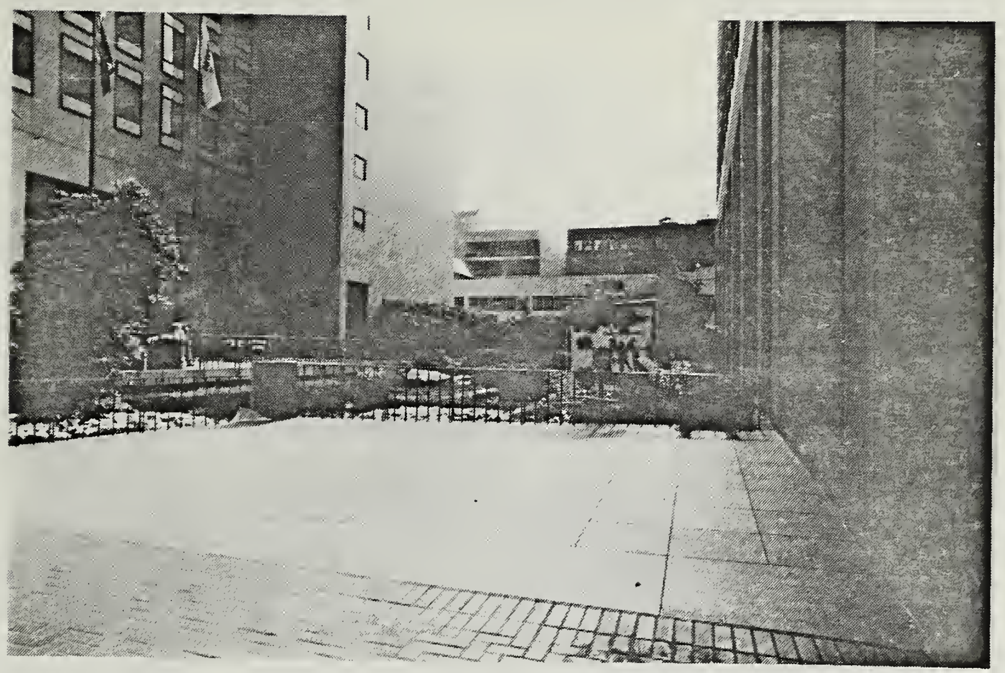

Figure 20a Private garden between Chevron buildings. View looking South from Market Street.

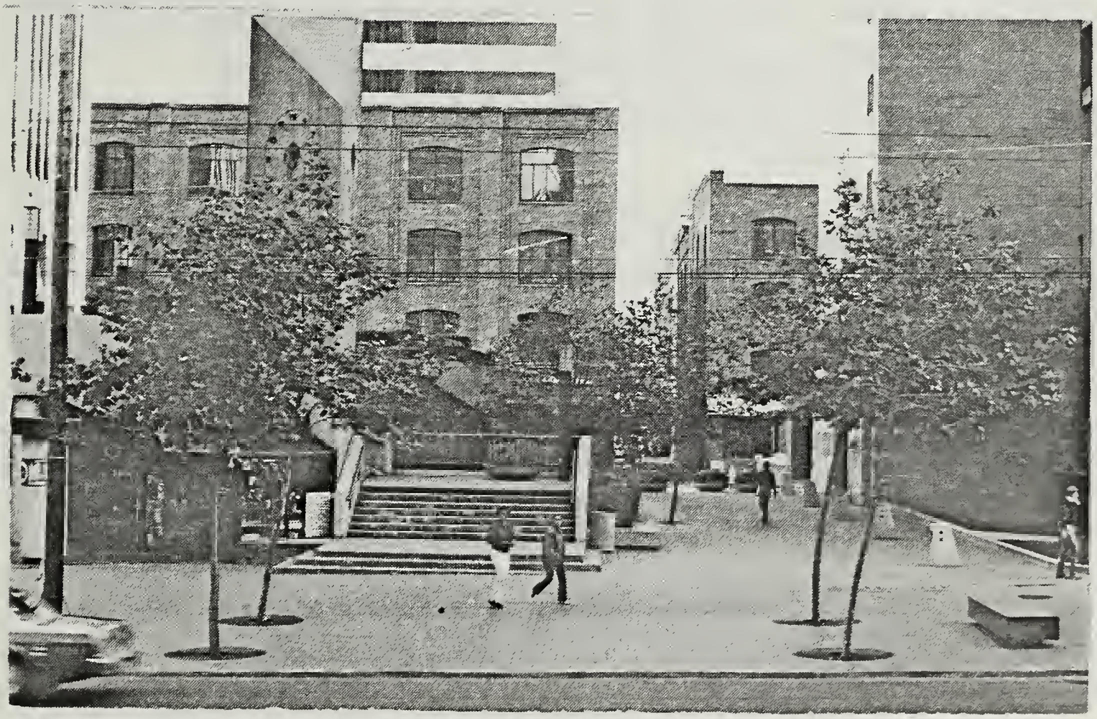

Figure 20b Tishman Plaza and public walkway between Market and Stevenson Streets. View looking South from Market Street.

Source: Bendix Environmental Research, Inc.

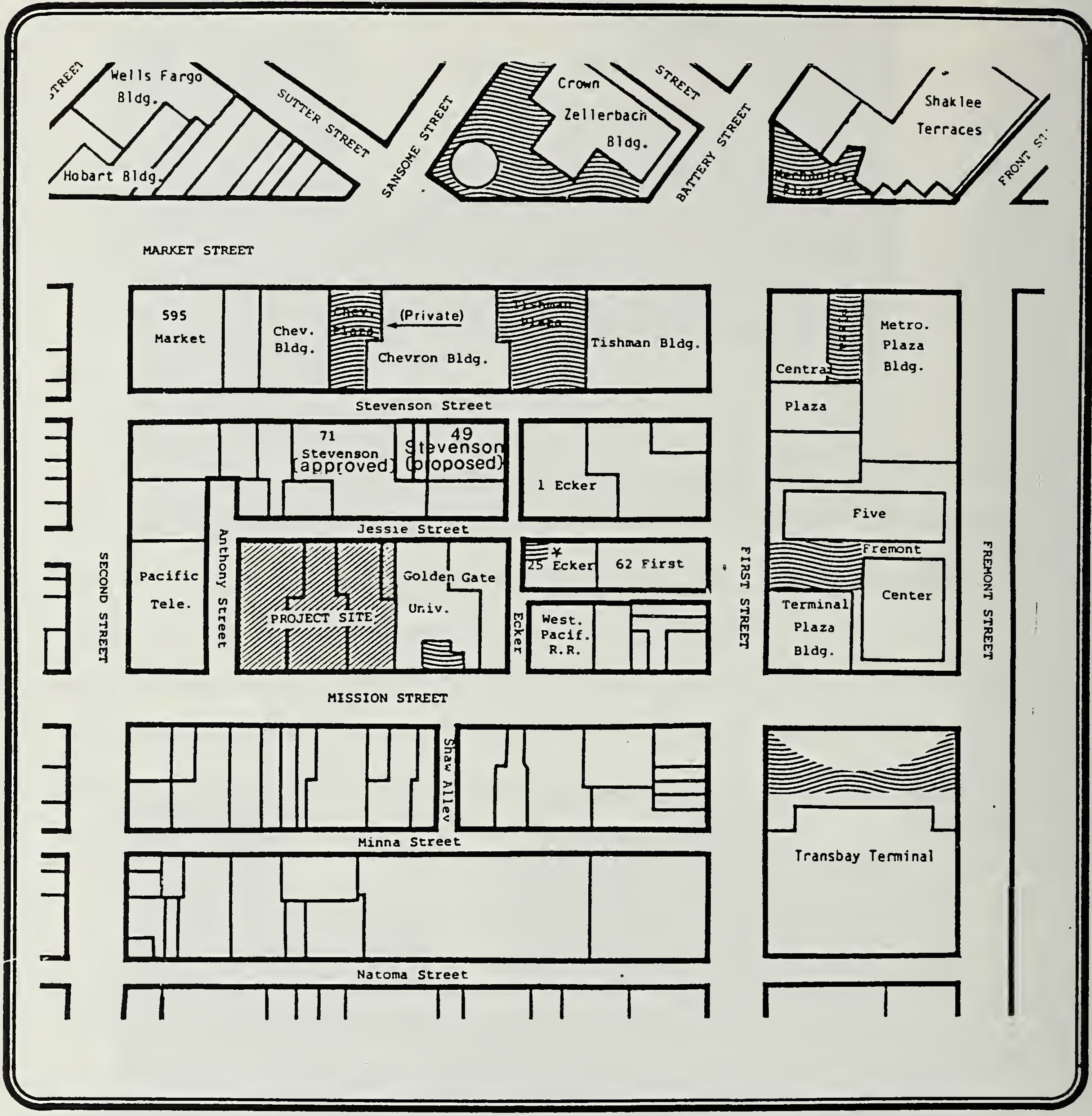

Figure 21

Public Open Space in the Vicinity of Lincoln Plaza ▨

N

*25 Ecker Plaza is underneath building overhang

Not to scale

Source: Bendix Environmental Research, Inc.

## San Francisco & Regional Office Space Market[1]

Late 1982 surveys indicate an increase in the vacancy rate for downtown San Francisco office space; up from 3.6% in September to 5.7% in December. The higher rate reflects a "softer" market (supply greater than demand) than has existed in recent years. However, rates below 5-7% do not indicate serious discrepancies between demand and available supply. The recent growth of downtown high-rise office construction is described in the Montgomery-Washington Building Final EIR (EE81.104), certified January 28, 1982, pp. 266-67, which is hereby incorporated by reference.[2]

Rents for downtown San Francisco commercial office space have tripled in the last decade (from $8.50/sq. ft. in 1970 to about $30/sq. ft. in 1981). Older buildings rent for less than new highrises; between $20-35/sq. ft. in the financial area, and $12-28/sq. ft. south of Market. Current San Francisco rents average $35-50/sq. ft. in new highrise buildings. Should the vacancy rate continue to increase, a reversal of the upward pressure on commercial rents would be expected; thereby, rents could decline, vacancy could increase.

## Housing

San Francisco had about 316,400 housing units in 1980.[3] Of this approximately 32% were owner-occupied (100,800 units). The amount of new single- and multiple-housing construction decreased 35% from 1979 (1,516 units) to

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[1] 123 Mission Office Building Final EIR, 81.183E, certified June 30, 1983, hereby incorporated by reference, available for public review at the Department of City Planning, Office of Environmental Review, 450 McAllister St., 5th Floor, San Francisco, CA 94102.

[2] Available for public review at the Department of City Planning, Office of Environmental Review, 450 McAllister St., San Francisco, CA 94102.

[3] Association of Bay Area Governments (ABAG), Census Data Bulletin 8, July, 1982.

1980 (980 units).[1] The Department of City Planning estimates the vacancy rate (vacant rental housing divided by total rental housing) at about 2.68% for rental housing.[2] The 1980 Census reports a rental vacancy rate of 4.3% (vacant for rent divided by renter occupied).[3] Census rental data include residential hotels and subsidized housing.

In 1982, the San Francisco Bay Area apartment market experienced the lowest level of construction activity since the 1974-5 recession.[4]

Regionally, single-family housing permits have declined each year since 1977. Contra Costa, Napa, San Francisco, San Mateo, Santa Clara and Solano county permit issuances began decreasing in 1978; this decline started in 1980 in Alameda County. Recent permit figures indicate a reversal of this trend showing a 50% increase in permit authorization over 1982 levels.[5] A similar pattern is exhibited for multi-family permits, with the exception that condominium construction permits increased steadily through 1980.

The average 1981 market value of a single-family house in the Bay Area was $146,000.[6] Various sources report the 1981 average in San Francisco over a range from a low of $127,000 to a high of $166,000, with the average

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1. Changes in the San Francisco Housing Inventory, Department of City Planning, 1971-1980, as cited in the Residence Element of Comprehensive Plan of the City and County of San Francisco, April 14, 1983.
2. Memo from Dean Macris, Director of City Planning, "1980 Census Information," March 25, 1982; as cited in 580 California Street Office Building Final EIR, EE 81.705E, certified January 6, 1983, p. 32, hereby incorporated by reference, available for public review at the Department of City Planning, Office of Environmental Review, 450 McAllister St., San Francisco, CA 94102.
3. See footnote #1, above.
4. 1982 estimates by Coldwell Banker Real Estate Consultation Services for San Francisco Bay Area 1983: The Commercial Real Estate Market, December 1982, pp. 26-7.
5. Bay Area Council, Bay Area Housing Briefs, July 4, 1983, Vol. 2, No. 7.
6. Table 3, Housing Costs and the Affordability Issue, State of CA, 1981, prepared by the Construction Industry Research Board, April, 1982, p. 8.

value approximating $147,000.[1] This average market value reflects the greatest increase of all Bay Area cities over the past five years.

Although the City's population decreased 5.2% from 1970 to 1980, the number of housing units increased 1.9% and households increased 1.3% from 1970 to 1980. The net gain in households was due in part to a reduction in the number of persons per housing unit (6%, from 2.34 to 2.19).[2]

The expansion of downtown office space is considered by some people to be one of the main sources of pressure on San Francisco's housing demand. Both regional and San Francisco housing stock are characterized by low growth rates, low vacancy rates, and high purchase and rental costs in relation to typical wages paid. This combination of factors and high mortgage costs have tended to constrict the supply and affordability of housing in San Francisco.[3]

## Fiscal Setting

The assessed value of the site for the project for the fiscal year 1981-82 was $2,259,600. At the 1982-83 tax rate of $1.17 per $100 of assessed value, the site generates about $27,000 annually in property tax revenues.[4]

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1. The Federal Home Loan Organization reports an average housing cost of $127,000 (new or used, single- or multi-family), third quarter of 1981, San Francisco Examiner, November 15, 1982. The Construction Industry Research Board reports an average of $166,000 based on information compiled from California Market Data Cooperative records, April, 1982.
2. Residence Element of the Comprehensive Plan of the City and County of San Francisco, p. 1.4, April 14, 1983.
3. 580 California Street Office Building Final EIR, 81.705E, certified January 6, 1983, p. 32, hereby incorporated by reference is available for review at the Department of City Planning, Office of Environmental Review, 450 McAllister St., San Francisco CA 94102.
4. Of the total tax, $22,600 represents the maximum allowable under Proposition 13 for general government expenditures ($1.00 for every $100 of assessed valuation), and $3,840 was levied to finance bond obligations previously approved by the electorate ($0.17% of assessed valuation).

The total General Fund revenue currently derived from the site by the City and County of San Francisco from the property tax ($27,000), the payroll tax ($136,900), gross receipts tax ($8,100), utility user's tax ($8,900), and sales tax ($4,700) is about $190,000.

The City incurs costs in providing services to the existing buildings and their occupants. General Fund revenues are the principal source of revenues for police, fire and general government services. Most street maintenance, improvements and traffic control costs are supported by other revenue sources such as fees, fines and Federal and State aid, all of which have been declining.

## E. TRANSPORTATION

The project site is served by local streets; portions of the regional freeway system; and by transit: BART, Muni, SamTrans, AC Transit, Golden Gate Transit and jitney service. The most direct freeway access to and from the East Bay and the Peninsula is from the on- and off-ramps at the Mission/Beale and Mission/Main intersections respectively and from on- and off-ramps at Harrison and Bryant Sts. Another off-ramp from the East Bay ends at Fremont St. between Folsom and Howard Sts. Access to and from the North Bay is less direct and subject to a more dispersed travel pattern. The most probable routes for North Bay travel are via surface streets to and from the U.S. Highway 101 corridor (Van Ness, Franklin, The Embarcadero, etc.).

The local street network is characterized by the east/west routes of Market, Mission, Howard and Folsom Sts. and the major north/south access routes of Fremont, First, Second and Third Sts. In the vicinity of the project site, every intersection of these major streets is controlled by traffic signals. The Transportation Element of the San Francisco Comprehensive Plan designates Market, Mission, Howard, Fremont, First, and Third Sts. as "Transit Preferential Streets" in the project area. By definition, priority is given to transit vehicles over automobiles on these streets, usually by means of transit-only lanes. Mission St. has a transit-only lane for each direction. In the project area, Howard St. is designated by the Plan as a "Primary Vehicular Street."[1]

Several streets in the project area are suitable for local access only: Anthony St. (two-way) bounding the site on the west, Jessie St. (one-way) bounding the site on the north, Ecker St. east of Golden Gate University which provides pedestrian access to the site via Jessie St., and Stevenson St. one-half block to the north which provides access to Ecker and Anthony Sts. (Fig. 2, p. 11).

The project lies within the area designated by the Transportation Element as the "Downtown Core Automobile Control Area"[2] and is one block north of an area designated by the Plan as a "Parking Belt."[3] Several streets near the project are included by the Plan in the "Primary Pedestrian Network."[4] Market, Mission, First, Second, New Montgomery and Third Sts., for example, are designated by the Plan as "Pedestrian-Oriented Streets."[5]

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1. A "Primary Vehicular Street" is a street functioning as a major route for automobile and truck movements into and out of the downtown area, chiefly to and from the parking belts for automobiles.
2. According to the Transportation Element, the "Downtown Core - Automobile Control Area" is an area where pedestrian, transit, and service vehicle access should have priority, and private commuter vehicles be discouraged.
3. A "Parking Belt" is an area designated by the Master Plan as appropriate for short-term parking facilities to replace spaces removed from the core area.
4. The "Primary Pedestrian Network" consists of streets, alleys, and other rights-of-way where priority in varying degrees should be given to pedestrian use.
5. A "Pedestrian-Oriented Street" is a vehicular street on which design measures should be used to improve mobility and render existing pedestrian space more pleasant and efficient.

Ecker St. is designated as an "Exclusive Pedestrian Walkway."[1] Other "Exclusive Pedestrian Walkways," in a two-block vicinity, include Annie St. between Stevenson and Market Sts. and a midblock walkway between the Transbay Terminal and Market St. Streets within a one-block radius of the project site designated by the Plan as "Pedestrian/Service Streets"[2] include Shaw St., Minna St. between Shaw Alley and First St., Jessie St. between Second and Third Sts., Annie St. between Stevenson and Mission Sts., and Natoma St. between Second and Hunt Sts. Streets designated by the Plan as "Preferred Commute Bike Routes" (for experienced cyclists) in the vicinity include Market, Mission, Howard, New Montgomery and Third Sts. Howard St. is designated by the Plan as a "Class III Signed Bikeway" (route signs only, no separate lane or path).

Public transit routes in the vicinity of the project site are shown on Figure 22, p. 51. Local service is provided by the San Francisco Municipal Railway (Muni), with 37 lines within 2,000 feet of the project site and access to the Muni Metro at the Montgomery and Embarcadero Stations (see Table 11, p. 112). Muni operates trolley coaches along Mission St. serving the site. Independently owned and operated jitneys provide additional transit service on Mission St. during peak commute hours. Regional service is provided by BART trains from the Montgomery and Embarcadero stations, Alameda-Contra Costa Transit (AC) buses from the Transbay Transit Terminal on Mission St. at First and Fremont Sts. (one block southeast of the project site), Southern Pacific Transportation Company/CalTrans (SP) trains from a terminal at Fourth and Townsend Sts., three San Mateo County Transit

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[1] An "Exclusive Pedestrian Walkway" is a street on which vehicles are prohibited.

[2] "Pedestrian/Service Streets," because of service needs cannot be for exclusive pedestrian use for any period of time, but through design can be made into pleasant pedestrian spaces.

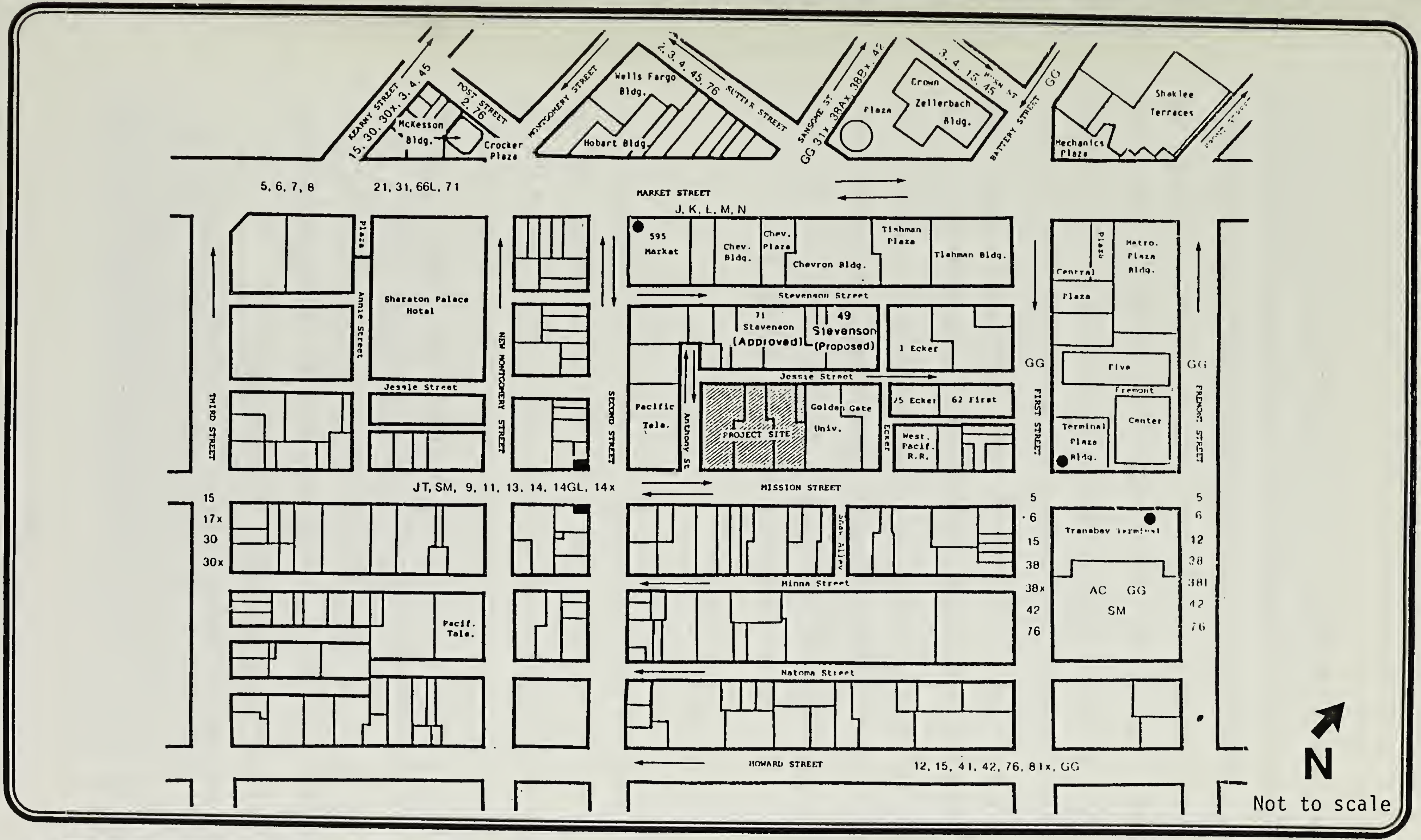

Figure 22

Transit Routes

Lincoln Plaza

Source: Bendix Environmental Research, Inc.

GG - Golden Gate Transit

SM - SamTrans

JKLM - Muni/BART Entrance

JT - Jitney

AC - AC Transit - Service to East Bay

⇄ - Traffic Direction

1,2,3,J,K,L - Route Designation

■ - Muni/SamTrans Bus Stop

● - Muni Stop

(SamTrans) bus lines with stops at the Transbay Transit Terminal and at Second and Mission Sts., and Greyhound buses from the depot at Seventh St. between Market and Mission Sts. The Golden Gate Bridge, Highway and Transportation District (Golden Gate Transit) provides peak-period bus service to and from Marin and Sonoma counties. Buses serve Battery and First Sts. near Market St. and the Transbay Transit Terminal during the a.m. peak period, and the Transbay Transit Terminal, Pine and Sansome Sts., and stops along Howard and Folsom Sts. during the p.m. peak period. Golden Gate Transit also provides ferry commute service to terminals in Larkspur and Sausalito from the Ferry building, and Harbor Carriers, Inc. provides service to Tiburon. Transit stops located at the northwest and southwest corners of the intersection of Mission and Second Sts. serve both Muni and SamTrans.

## F. GEOLOGY, SEISMOLOGY, HYDROLOGY

A preliminary geotechnical evaluation done by Woodward-Clyde Consultants for the project sponsor indicates that the site, located near the original shoreline of San Francisco Bay, is a former tideland area reclaimed by filling.[1] The site is expected to be underlain by 25 to 35 feet of sandy fill over 10 to 15 feet of Bay Mud (soft, silty clay). The fill and the Bay Mud are not expected to be suitable bearing materials for the proposed building. The dense sand expected below the Bay Mud could provide support for the foundation. The nature of the material under the dense sand would affect the length of the piles used in the foundation.

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1. Preliminary Geotechnical Evaluation Mission/Anthony Building, San Francisco, CA; Carol Rides, Project Engineer, Woodward-Clyde Consultants, October 27, 1982, available for public review at the Department of City Planning, Office of Environmental Review, 450 McAllister Street, 5th floor, San Francisco, CA 94102.

# III. SETTING

No active faults (faults which have an historic record or other geophysical evidence of movement within approximately the last 10,000 yrs.) are known to exist within San Francisco. Nearby active faults are the San Andreas fault, about 9 miles southwest of the site; the Hayward fault, about 16 miles east; and the Calaveras fault, about 30 miles east. Within the next 60-170 yrs, an earthquake of the magnitude of the 1906 San Francisco earthquake could be expected to affect the Lincoln Plaza site. In the event of such an earthquake, groundshaking at the site is expected to be "strong;"[1] liquefaction[2] and subsidence[3] could occur, and "heavy damage" to those buildings existing at the time of the survey (1973 Blume Report) would be expected.[4] It is expected that new buildings would experience less damage than those buildings evaluated in the 1973 survey.[5] No water bodies, springs or water courses are located on or near the project site.

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[1] Strong groundshaking effects would create "general but not universal fall of brick chimneys, cracking of masonry and brick work." Blume/URS, San Francisco Seismic Safety Investigation, 1974.

[2] Liquifaction: Earthquake induced transformation of stable granular material, such as sand, into a fluid-like state, similar to quicksand. The report cited in footnote 1 maps the cite into an area subject to liquifaction.

[3] Subsidence: An uneven local settlement of the ground's surface. Although it can occur under static (normal) conditions, it is frequently activated by strong ground motion, such as that from a major earthquake. The URS/Blume report maps the site on the border of an area subject to subsidence.

[4] An average condition of heavy damage is rated 3 on a scale of 1 to 4, where 4 represents the worst damage.

[5] URS/Blume report (see footnote 1).

# CHAPTER IV. ENVIRONMENTAL IMPACTS

On the basis of the Initial Study for the proposed project, published December 10, 1982, it was determined that an Environmental Impact Report (EIR) was required. Impacts that would be mitigated to level of insignificance, or those with insignificant effects, were focused out of the EIR. These include: operational noise, construction related air quality, cultural resources, non-cumulative utilities and public services, geotechnical, non-construction related water quality, biological and hazard impacts. This EIR does not discuss these issues. The Initial Study, which appears as pp. A-1 to A-26 of this document, may be referred to for a discussion of them.

Not all of the impacts discussed in this section are physical environmental effects as defined by the California Environmental Quality Act (CEQA). Those impacts which do not meet the CEQA definition are included here for informational purposes only.

## A. LAND USE AND ZONING

The proposed project would contain office and retail/commercial space totaling 567,000 gross sq. ft. Approximately 558,000 sq. ft. of the proposed project would be devoted to office space and 9,000 sq. ft. to retail/commercial space. There would be 95 parking spaces on one level (40,000 sq. ft.). Total building square footage, including FAR and non-FAR areas, would be approximately 622,000 sq. ft.

The project would involve demolition of two six-story office buildings and a photo-processing kiosk, and would remove a parking lot. A one-story diner on Jessie Street would be donated to someone willing to remove it from the site. If no one wanted it, it would be demolished.

The project is in the 600-I Height and Bulk District (Fig. 15, p. 31). The project, at 453 feet (excluding the mechanical penthouse), would be 147 feet shorter than allowed; 170 ft. in length above 150 feet, the maximum permitted; and 182 ft. diagonally, 18 ft. less than the maximum 200 ft. permitted. Therefore, the project would comply with the Height and Bulk District requirements. The new building would have an FAR of 14:1, the maximum permitted in the C-3-0 District. No bonuses are being requested for this project.

The project would increase the density of development on the site, increasing office space by about 418,000 sq. ft. and retail by about 9,000 gross sq. ft. A publicly-accessible plaza area of 14,500 sq. ft. would provide open space where there is now none. There would be a net decrease of 105 parking spaces on the site. The one level of subsurface parking would contain about 40,000 sq. ft. of parking space (exclusive of exit and entry ramps and elevator core area), equal to about 7% of the office and retail gross floor area. Section 204.5 of the Planning Code would allow parking to equal 7% of the floor area. 3,400 sq. ft. of loading space and parking access would be provided on the site. Four loading spaces would be provided (6,800 sq. ft.), as required by §154(b) of the Planning Code. City Planning Commission Resolution No. 9286 would require the proposed project to provide six off-street loading spaces.

In August 1983, the Department of City Planning published "The Downtown Plan," a series of regulatory proposals for managing development in the Downtown. The proposed Plan would reduce the maximum allowable FAR for the site from 14:1 to 10:1 (not including bonuses and transfer of development rights). The Downtown Plan recommends that new office buildings be required to include floor area for retail space designed to meet the shopping, service and eating needs of downtown workers (p. 107). The proposed project would provide about 9,000 sq. ft. of ground level retail/ commercial space such as restaurants and shops, which would meet some of the needs of downtown workers. The Downtown Plan recommends four loading spaces for the project at a FAR of 10:1; for a 14:1 FAR for this project (based on bonuses/transfer of developments) six spaces are recommended. The proposed project would not meet this proposed requirement. The proposed project would exceed the recommended open space requirements in the Downtown Plan by 3000 sq. ft., which would be "bankable" as an open space credit for another project. The proposed project would conform to the height but not the bulk guidelines of the proposed Downtown Plan. Table 2, p. 57, compares the proposed project to the Planning Code and the Downtown Plan.

The proposed project would comply with Objective 6 of the Commerce and Industry Element of the Master Plan which states:

> "maintain and improve San Francisco's position as a prime location for financial, administrative, corporate and professional activity."[1]

Together with other projects on the project block, 71 Stevenson (approved), 49 Stevenson (proposed) and 25 Ecker (recently completed), the project would provide office space for San Francisco's expanding financial and administrative sector. The project is in the C-3-0 (Downtown Office) zoning District which allows intensive office development.

Lincoln Plaza would comply with Objective 6, Policy 2, of the Commerce and Industry Element, "Guide location of office development to maintain a compact downtown core so as to minimize displacement of other viable uses."[1]

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1. Department of City Planning, Comprehensive Plan for the City and County of San Francisco, Commerce and Industry Element, 1978, p. 25.

## Table 2. Relationship of Proposed Project to Existing Development and Proposed Downtown Plan Development Controls

| Development Control | S.F. Planning Code and Interim Controls | Proposed Downtown Plan | Proposed Project |
|---|---|---|---|
| Base FAR | 14:1 | 10:1 | 14:1 |
| Height Limit | 600 ft. | 500/550* | 453 ft. |
| Maximum Diagonal | 200 ft. above 150 ft. | Lower tower: 200 ft. | 182 ft. |
| Maximum Length | 170 ft. above 150 ft. | Lower tower: 160 ft. | 170 ft. |
| Maximum Diagonal | | Upper tower: 170 ft. | 182 ft. |
| Maximum Length | | Upper tower: 140 ft. | 170 ft. |
| Ground Floor Retail | Not Required | Retail space required on ground floor, exempt from FAR calculation. | 9,000 sq. ft. |
| Recreation Open Space | Not Required | 1 sq. ft. open space/50 gross sq. ft. of commercial space.<br>8,200 sq. ft. at FAR 10:1.<br>11,500 sq. ft. at FAR 14:1 | 14,500 sq. ft. plaza |
| Off-Street Loading | 3 spaces for over 500,000 sq. ft. and 1 for every 400,000 sq. ft. thereafter. None required for retail uses under 10,000 sq. ft. The project would require four spaces. | 0.1 spaces per 10,000 sq. ft. of office space. None required for retail uses under 10,000 sq. ft.<br>4 spaces required for project at 10:1<br>6 spaces required for project at 14:1 | Four spaces provided, meets Code requirements |
| Housing Provision | Not Required; FAR bonuses for on-site housing. | None required, demolition of existing housing restricted. | No housing proprosed for project |

*Height and Bulk boundary line splits site.

Source: Bendix Environmental Research, Inc., using the San Francisco Planning Code and the Downtown Plan, August 1983.

Objective 6, Policy 4, of the Commerce and Industry Element states that "downtown development must be sensitive to the needs and desires of those who live, visit, or work there, and should provide open space activity areas for public use, and convenient shopping and eating facilities." The project plaza and ground floor retail use would provide open space and activity areas for the public and would in this way, be responsive to the needs of workers and students nearby.

The SPUR South of Market Plan would limit the impact of intensive office development to a downtown core area. The proposed project site is located within the office core area identified in this Plan.[1] The South of Market Plan encourages mixed-use projects (office/housing) in the office core area. The proposed project would not follow this recommendation.

Until recently, low vacancy rates and rising rents in the downtown area indicated that demand for space was strong and that construction of new office space had failed to keep pace with growing demand.[2] Now, reports show office space coming on the market faster than it is being leased. As of June 1983, the vacancy rate in San Francisco was about 7.2% with a lower rate expected in 1984.[3] Future market trends and the resultant direction of development are difficult to predict.

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1. San Francisco Planning and Urban Research (SPUR), The South of Market Plan, June 1981, p. 35.
2. The vacancy rate in downtown office buildings was estimated at 1.0% in May 1981 and declined from 8.9% in 1977 to 4.2% in 1978 to 2.6% in 1980 according to the Building Owners and Managers Association (BOMA) (telephone conversations, June 24, 1981 and January 27, 1982). BOMA's vacancy rate is based on its survey of office buildings. Other sources suggest that these vacancy rates might have been high. The vacancy rate in May 1980 was estimated to be as low as one tenth of one percent (San Francisco Examiner, "Effects of S.F. Office Space Squeeze," January 18, 1981, report on a real estate conference sponsored by Coldwell Banker).
3. Wall Street Journal, p. 27, July 13, 1983.

## B. ARCHITECTURAL AND ARCHEOLOGICAL RESOURCES[1]

### Architectural Resources

The project would require demolition of the "C" rated Dalziel building at 560 Mission St. and the "C" rated D. N. & E. Walter building at 562 Mission St. (the "B"-rated connecting bridge to 66 Jessie St. will be demolished for the 71 Stevenson project). The Walter Building is also included on the Department of City Planning "List of Architecturally and/or Historically Significant Buildings in the Downtown" adopted by the City Plannning Commission.[2] Structures listed warrant "special concern for preservation in part or in whole" according to the Department of City Planning.

The City Planning Commission Resolution recognizes the Director of City Planning's intent to recommend disapproval of any project that would require the demolition of any building included on this list of significant buildings. The Department of City Planning's list includes, by definition, those buildings rated "A" and "B" by Heritage. The Walter building (562 Mission) was orginally rated a "B" by Heritage but was reevaluated in July 1983 and reassigned a "C" rating (see Appendix II, p. A-34, for further discussion of the reevaluation of the Walter Building).

The 57 Jessie Street diner, "C"-rated by Heritage, would be donated to any one who would remove it from the site. If no party wished to remove the diner, it would be demolished (See Environmental Setting, pp. 39-40 for discussion of the architectural resources on the site).

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1. Partially based on report developed for this EIR by G. Bland Platt, historical subconsultant to Bendix Environmental Research, Inc. Available for review at the Department of City Planning, 450 McAllister Street, 4th floor.
2. Resolution 8600, May 29, 1980.

## Archeological Resources

With construction for existing buildings (including basements) dating between 1907 and 1919, it seems probable that artifacts of interest were removed during excavation. However, since the proposed construction would require excavation about 20 feet below the surface (approximately 10 ft. deeper than excavation for the present building), it is possible that prehistoric materials could be unearthed. The nature of the foundation for the building on the site prior to the construction of the 562 Mission Bldg. is unknown; hence, the depth of original excavation is unknown.

Because of previous excavations including those for buildings now on site, it is not probable that any historically or culturally significant materials would be found during excavation for the proposed project. See pages 143-144 for mitigation measures to be implemented in the event of an archeological or other find.

## C. URBAN DESIGN, SHADOWS, WIND

### Urban Design

The project sponsor would construct a 453-foot-tall office tower and public plaza in the office/commercial area along Mission Street, west of First St., in the South of Market area which now generally lacks public open spaces. The demand for open space would be expected to grow as high-rise office buildings were built and the number of workers in the area increased. If developed as proposed, the Yerba Buena Gardens project would provide a variety of open spaces, to total 425,000 sq. ft., two to four blocks west of the site.

The proposed project would provide a public open space bounded by the new building, Anthony, Jessie and Mission Sts. The visual focal point of the plaza would be located away from Mission St. The plaza would provide open space, greenery and relief from the noise and activity on Mission St. The project sponsor would encourage the 71 Stevenson project sponsor to coordinate the design of its open space with Lincoln Plaza to produce a cohesive open space along Jessie St. Together with existing open space running north-south between Market and Stevenson Sts., the proposed open space area of this project, combined with the other open spaces, would provide a paved and landscaped walkway from Market St. to Mission St. Portions of Jessie and Anthony Streets might be incorporated into the overall plaza design by the project sponsor. For example, trees could be planted along the side of the Pacific Telephone building across Anthony from the project site.

The Urban Design Element[1] of the San Francisco Comprehensive Plan contains policies and principles to serve as guidelines for new development. The policies in the Element may be used as the basis for evaluation of the proposed project and its urban design implications. The relationship between applicable policies of the Comprehensive Plan and the project follows in Table 3.

(Text continues on p. 69, after Figure 25)

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[1] City and County of San Francisco, "Urban Design Element," 1971.

Table 3. Relationship of the Urban Design Policies of the San Francisco Comprehensive Plan[1] to the Project

| URBAN DESIGN POLICIES | RELATIONSHIP OF PROJECT TO POLICIES |
|---|---|
| Objective 1. Policies for City Pattern | |
| Policy 1. "Recognize and protect major views in the City, with particular attention to those of open space and water." (p. 10) | Designated view corridors along Sansome, Post and Pine Sts. would not be blocked by the project. Approximately 10% of Battery St. view corridor would be blocked. The proposed project would block part of southeast views of the Bay from some buildings such as the 595 Market (some middle floors would lose about 27% of the present view) and Chevron Bldg. (upper middle floors, above 325 ft. and below 469 ft., would lose about 27% of the view remaining after construction of the 71 Stevenson Bldg.), the Wells Fargo Bldg. at 44 Montgomery (floors between 310 and 469 ft. would lose about 5% of present views), Crocker Headquarters (floors between 310 and 469 ft. would lose about 8% of present views). The project would provide new views of the Bay and San Francisco to building occupants. |
| Policy 3. "Recognize that buildings, when seen together, produce a total effect that characterizes the city and its districts." (p. 10) | The project design would include curved lines that are intended to blend with the curved lines of the existing Golden Gate University Bldg. on the project block. Collectively, high-rise buildings provide the major visual identification for the central business district. The proposed arched rooftop and surface detailing lines would distinguish the proposed building from other highrises and would add variety to the San Francisco skyline. The light colored facade (aluminum and solar gray or green glass) would help the building blend into the skyline when viewed from a distance(Fig. 23, p. 66). |

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1. City and County of San Francisco, 1971, "Comprehensive Plan, Urban Design Element."

Continued on Next Page

Table 3. Relationship of the Urban Design Policies of the San Francisco Comprehensive Plan to the Project, Cont.

| URBAN DESIGN POLICIES | RELATIONSHIP OF PROJECT TO POLICIES |
|---|---|
| Objective 2. Conservation of Resources | |
| Policy 6. "Respect the character of older development nearby in the design of new buildings." (p. 25) | The proposed project, like other new buildings in the area, would differ in form and scale from the buildings on-site and the older buildings in the area, many of which are brick and shorter than the proposed building (see Figs. 24 and 25, pp.67 and 68). |
| Objective 3. Policies for Major New Development | |
| Policy 1. "Promote harmony in the visual relationships and transitions between new and older buildings." (p. 36) | The lines of the proposed project are intended to relate to the scale and lines of its immediate neighbor, Golden Gate University. Granite columns and granite bands around the base would relate to the scale of smaller brick buildings nearby (Figs. 24 and 25, pp. 67-68). |
| Policy 2. "Avoid extreme contrasts in color, shape and other characteristics which will cause new buildings to stand out in excess of their public importance." (p. 36) | The arched building top would differ from the predominantly box-like appearance of buildings in San Francisco's skyline. The proposed building would be light in color and would not contrast with existing buildings. |
| Policy 4. "Promote building forms that will respect and improve the integrity of open space and other public areas." (p. 36) | The project would provide 14,500 sq. ft. of open space in a landscaped plaza. The project sponsor would encourage other project sponsors on the block to coordinate plaza design.[1] The glass enclosed space, created by stepping back the first and second floors |

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[1] Design coordination is encouraged by the Department of City Planning. Implementation of coordinated design by other property owners would not be the responsibility of the project sponsor of this project.

Continued on next page

Table 3. Relationship of the Urban Design Policies of the San Francisco Comprehensive Plan to the Project, Cont.

| URBAN DESIGN POLICIES | RELATIONSHIP OF PROJECT TO POLICIES |
|---|---|
| | around the entrance would lighten the appearance of the building's base to prevent it from overwhelming the plaza. |
| Policy 5. "Relate the height of buildings to important attributes of the city pattern and to the height and character of existing development," (p. 36) | The proposed project would be 33 stories or about 453 ft. tall. It would relate to office structures of similar height nearby, such as the 39- and 22-story Chevron Bldgs. and the 38-story Tishman Bldg. all on Market Street, the 43-story Five Fremont Bldg. one block east on Mission St. and the 23-story 71 Stevenson Bldg. (recently approved) immediately north of proposed project. Lincoln Plaza would be taller than other, older buildings in the project area that range from 5-12 stories. |
| Policy 6. "Relate the bulk of buildings to the prevailing scale of development to avoid an overwhelming or dominating appearance in new construction." (p. 37) | The bulk of the proposed building would relate to the adjacent Golden Gate University although the proposed tower would be taller. Setbacks from the street would diminish perceived bulk. Pedestrian scale architecture at ground level would include granite columns and bands accenting the glass-enclosed entrance. The space between the ground and third floors would visually lighten the base of the building and is intended to prevent it from overwhelming the public plaza. Granite bands would pick up lines of adjacent buildings (Figs. 24 and 25, pp. 67-68). |
| Objective 4. Neighborhood Environment | |
| Policy 12. "Install, promote and maintain landscaping in public and private areas." (p. 57) | The proposed plaza would have garden areas and seating for eating lunch or other activity. |

Continued next page

Table 3. Relationship of the Urban Design Policies of the San Francisco Comprehensive Plan to the Project, Cont.

| URBAN DESIGN POLICIES | RELATIONSHIP OF PROJECT TO POLICIES |
|---|---|
| Policy 13. "Improve pedestrian areas by providing human scale and interest." (p. 57) | The plaza and entry would provide various human scale rest and activity areas. The commercial activities on the ground floor of the proposed building would be visible from the plaza and sidewalks through windows. Landscaping and paving of Jessie and Anthony Sts. by the project sponsor would improve the existing pedestrian path between Market and Mission Sts.[1] |
| Policy 14. "Remove and obscure distracting and cluttering elements." (p. 57) | A parking lot would be replaced by the proposed plaza. The street (Jessie) behind the proposed project would be paved to harmonize with the plaza.[1] A photo kiosk would be removed from the site. |

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1. Arrangements between abutting property owners and the City for resurfacing of streets to integrate them into plaza design have not been completed.

End of Table

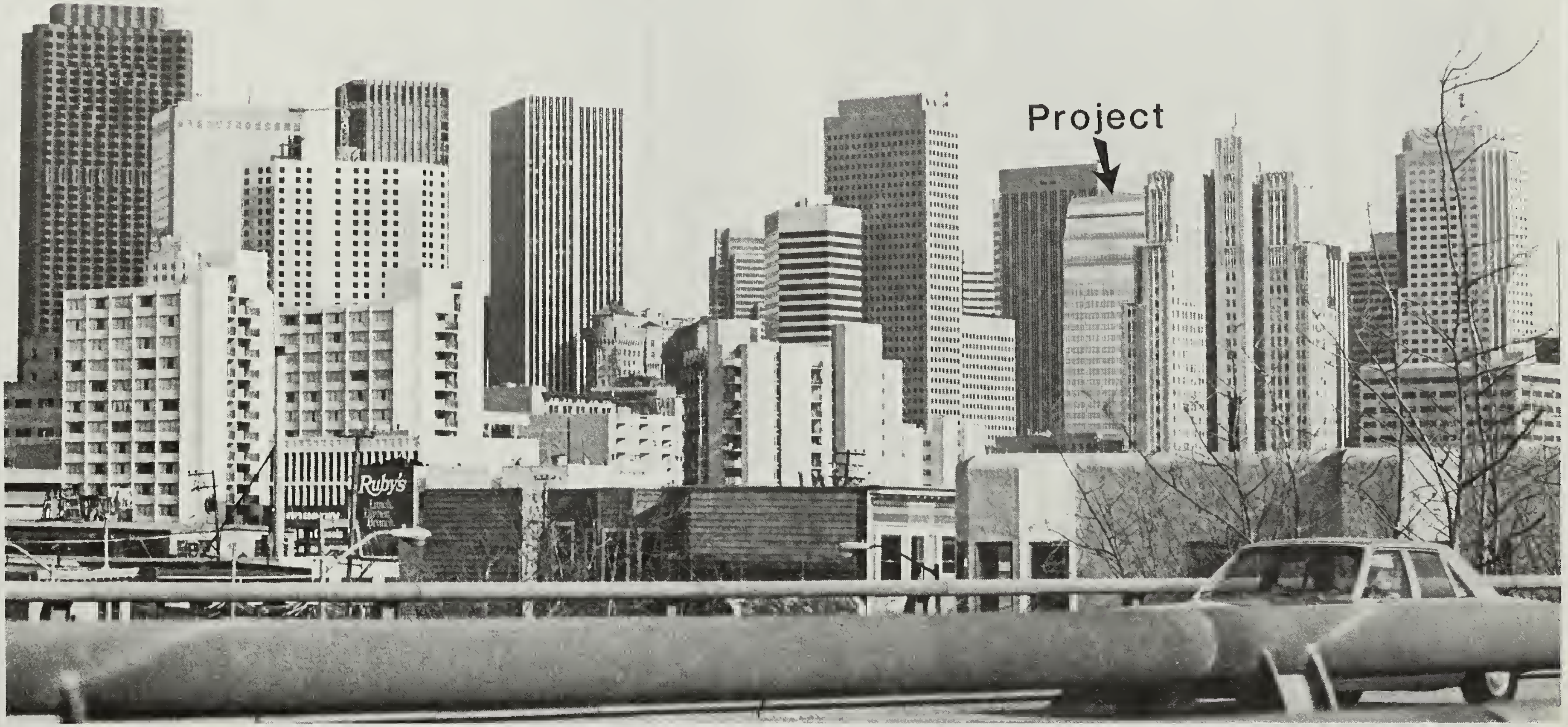

**Figure 23** Photomontage of the Project From the South

**Lincoln Plaza**

SOURCE: Square One Film and Video

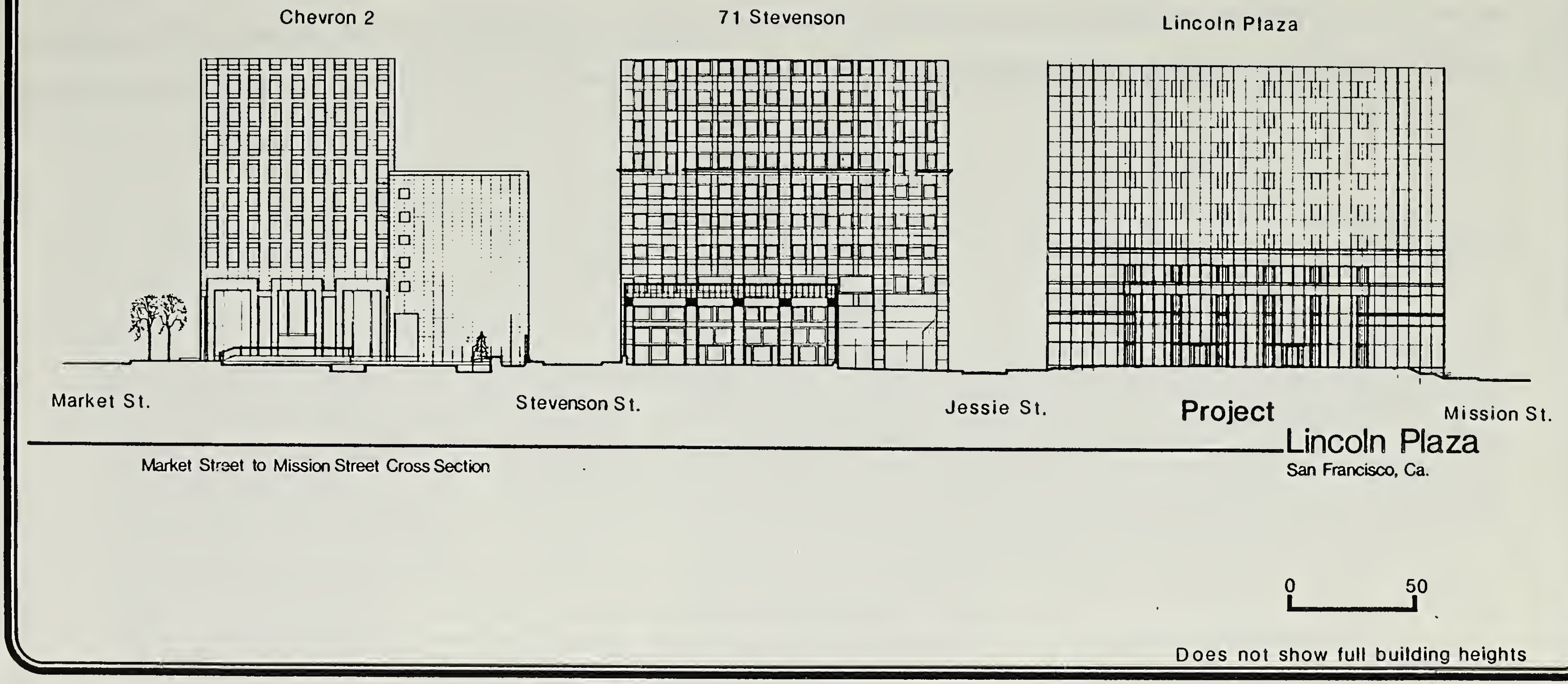

Figure 24

East Facing Cross Section from Market Street to Mission Street

Source: HOK Architects and Bendix Environmental Research, Inc.

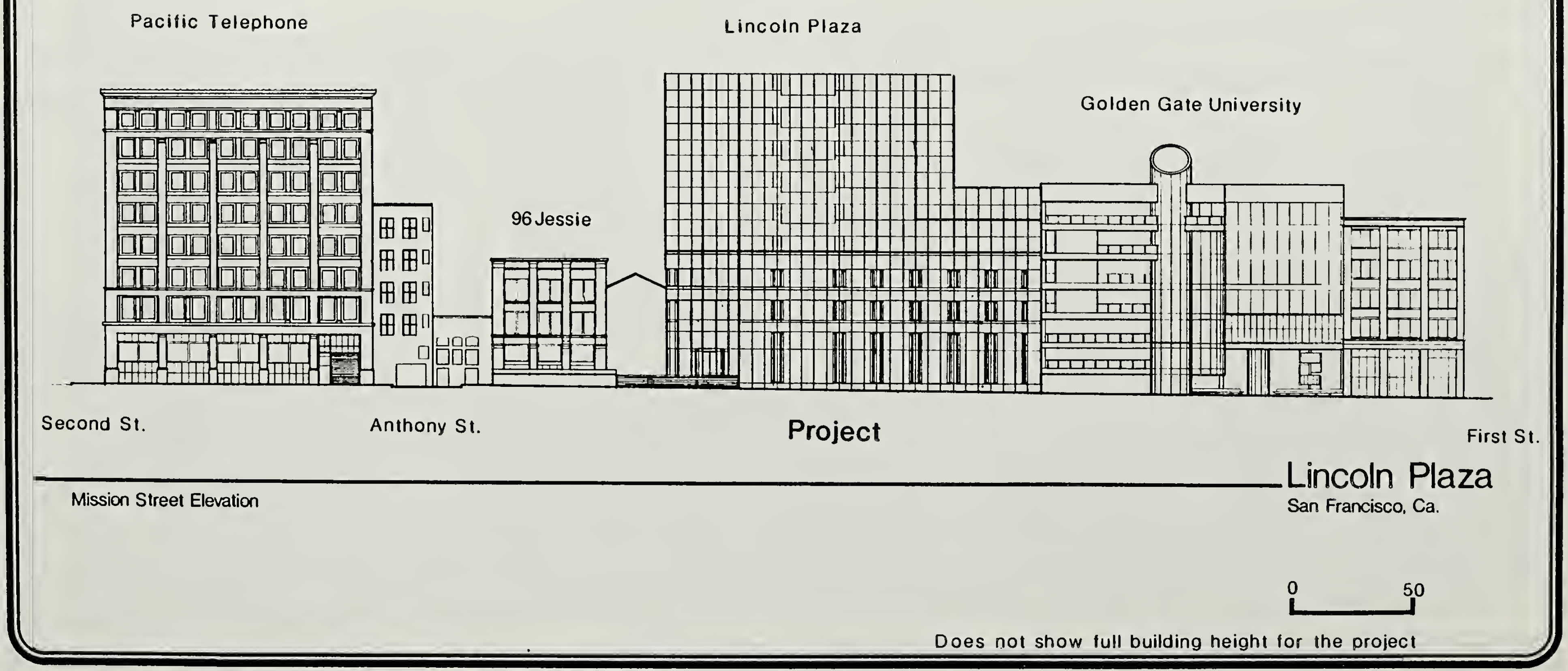

Figure 25

North Facing Elevation Along Mission Street

Source: HOK Architects and Bendix Environmental Research, Inc.

## Shadows

Project shadows were analyzed at two hour intervals from 10 am to 2 pm, four times of the year: March 21, June 22, September 24 and December 22.[1] These intervals were chosen to show shadow impacts on the proposed plaza and surrounding open space areas during the times of greatest use. The analysis includes shading from existing development (71 Stevenson project included) and the proposed 49 Stevenson and Lincoln Plaza projects. The shadow impact of the proposed project is given as the net new shadow that would result from construction of Lincoln Plaza. Emphasis has been placed on shadow impacts to the 71 Stevenson plaza (located on the southwest corner of the site along Jessie St.), the proposed project plaza located along Jessie and Anthony Sts. and on Jessie and Anthony Sts. which are both used as pedestrian walkways (for further discussion of the methodology used in this shadow analysis see Appendix III, p. A-37).

The proposed project would have no impact on public or private open space on Market St. and would not shade the Ecker St. walkway, assuming the approved 71 Stevenson and the proposed 49 Stevenson projects are built. If 49 Stevenson was not built, the project shadow would encroach upon Tishman Plaza during December at mid day (see following discussion of winter shadows). Table A-2, p. A-39 lists the percent amounts of sunlight and shade on the 71 Stevenson and proposed project plazas for the times studied.

Spring (March 21). The proposed project would cast shadows on approximately 20% of its plaza (on the northeast portion), and on a 25 ft. section of the western end of Jessie St. at 10 am. Shading on Lincoln Plaza would decrease until noon when the plaza would be mostly sunny (about 90%). The proposed project would not shade the 71 Stevenson plaza during the noon hour. By 1 pm, shade from the Pacific Telephone building would cover about 40% of the project plaza, increasing to 80% coverage by 2 pm. Between 1 pm and 2 pm the proposed project would shade a 250 ft. section of the north side of Jessie St., approximately 175 ft. before and after the intersection of Ecker St. (see Figs 26-28 pp. 72-74).

---

[1] These dates represent the two solar solstices and equinoxes. The solstices are the longest and shortest days of the year, occurring on June 22 and December 22, respectively. During the spring and fall equinoxes, the Sun is half way between the north and south poles of the Earth and periods of light and darkness are equal.

Summer (June 22). At 10:00 am 70% of the project plaza, the northwest portion of 71 Stevenson plaza, the north half of Anthony St. and the west end of Jessie St. would be shaded by the project. During the course of the day the project shadow would shorten and move eastward, decreasing the shading on Lincoln Plaza to about 20% at noontime and shading the 71 Stevenson plaza 100%. By 1 pm both plazas would be entirely exposed to sunlight. At 2 pm the proposed project would cast a 10 ft. shadow approximately 75 ft. along the south side of Jessie St. behind Golden Gate University (see Figs. 29-31, pp.75-77).

Fall (September 24). The northeast portion of Lincoln Plaza (about 40% of the total plaza) would be shaded by the proposed project during the mid-morning. The shading would decrease to 20% coverage at 11 am. From noon to 2 pm there would be no new project shadow over any open space or pedestrian passageway (see Fig. 32-34, pp. 78-80).

Winter (December 22). The proposed project would shade the west end of Jessie St. and approximately 15% of the project plaza at 10 am. The project shadow would decrease by noon; however, shading from the Pacific Telephone Building would begin to cover the project plaza at this time and cover approximately 60% of Lincoln Plaza by 1 pm and 70% at 2 pm (see Figs. 35-37, pp. 81-83). If the proposed 49 Stevenson project were not constructed

Lincoln Plaza would impact Tishman Plaza during noontime in the winter months by casting new shadow over approximately 70% of the plaza.

Worst case shadow effects from the project on open space and public walkways would generally be limited to the summer months in the morning hours (10-11 am) when the proposed plaza would be approximately 70% shaded by the project (see Fig. 29, p. 75). These are also the times when fog is prevalent in the downtown area.[1] Other impacts would be in June when the project would shade all of 71 Stevenson plaza from 12 to 1 pm. During this time Lincoln Plaza would be 80% accessible to sunlight (see Fig. 30, p. 76).

(Text continues on p. 84.)

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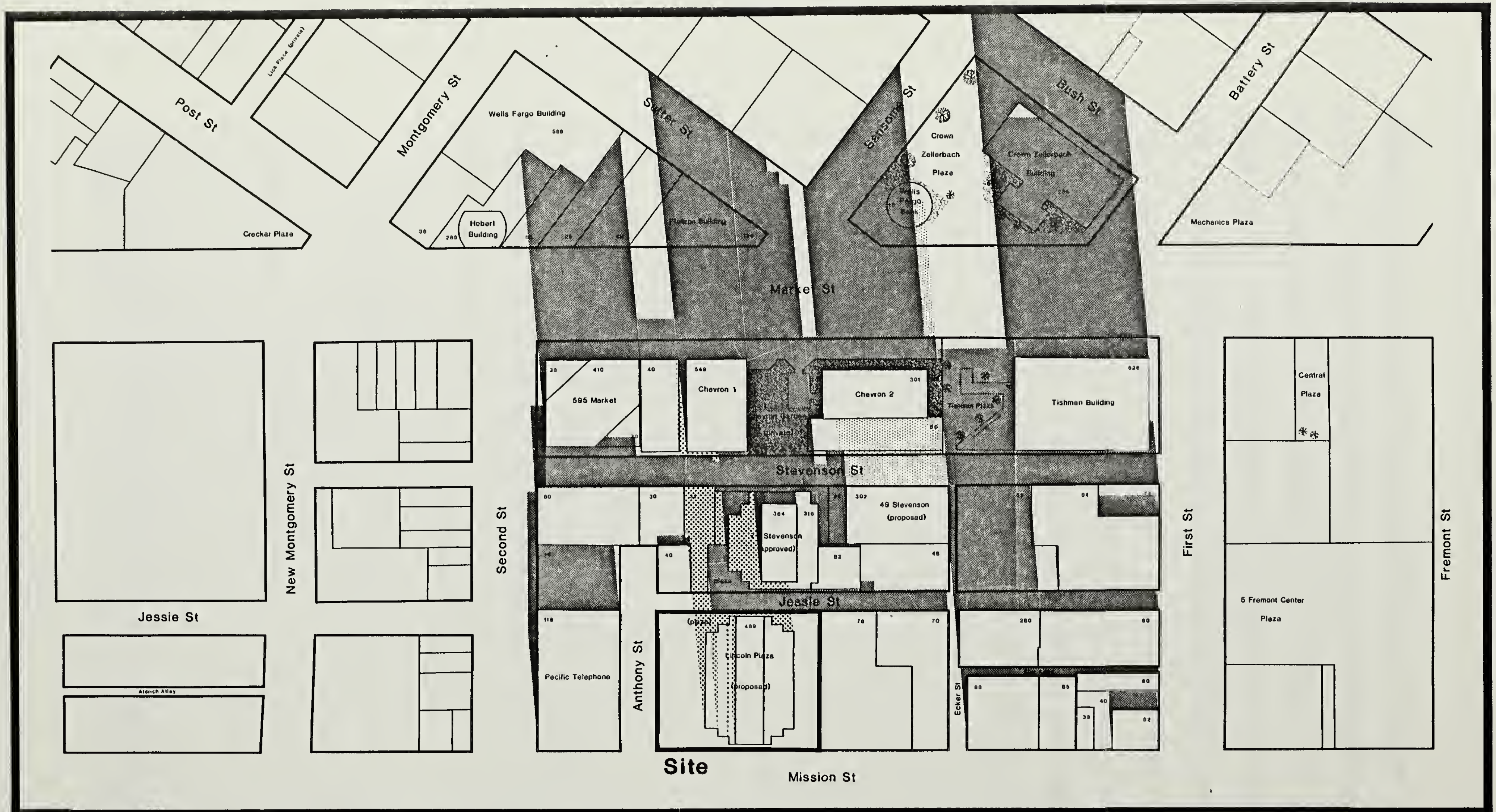
[1] San Francisco Urban Design Study Preliminary Report No. 1, Background. San Francisco Department of City Planning, p. 10. March, 1969.



LEGEND

▩ Existing Shadow

▨ Project Shadow

░ 49 Stevenson (proposed) Shadow

┈ Elevated Open Space

FIGURE 26

LINCOLN PLAZA SHADOW PATTERN

MARCH 21 10 A.M. P.S.T.

N

0 50 FEET

SOURCE: Bendix Environmental Research, Inc.

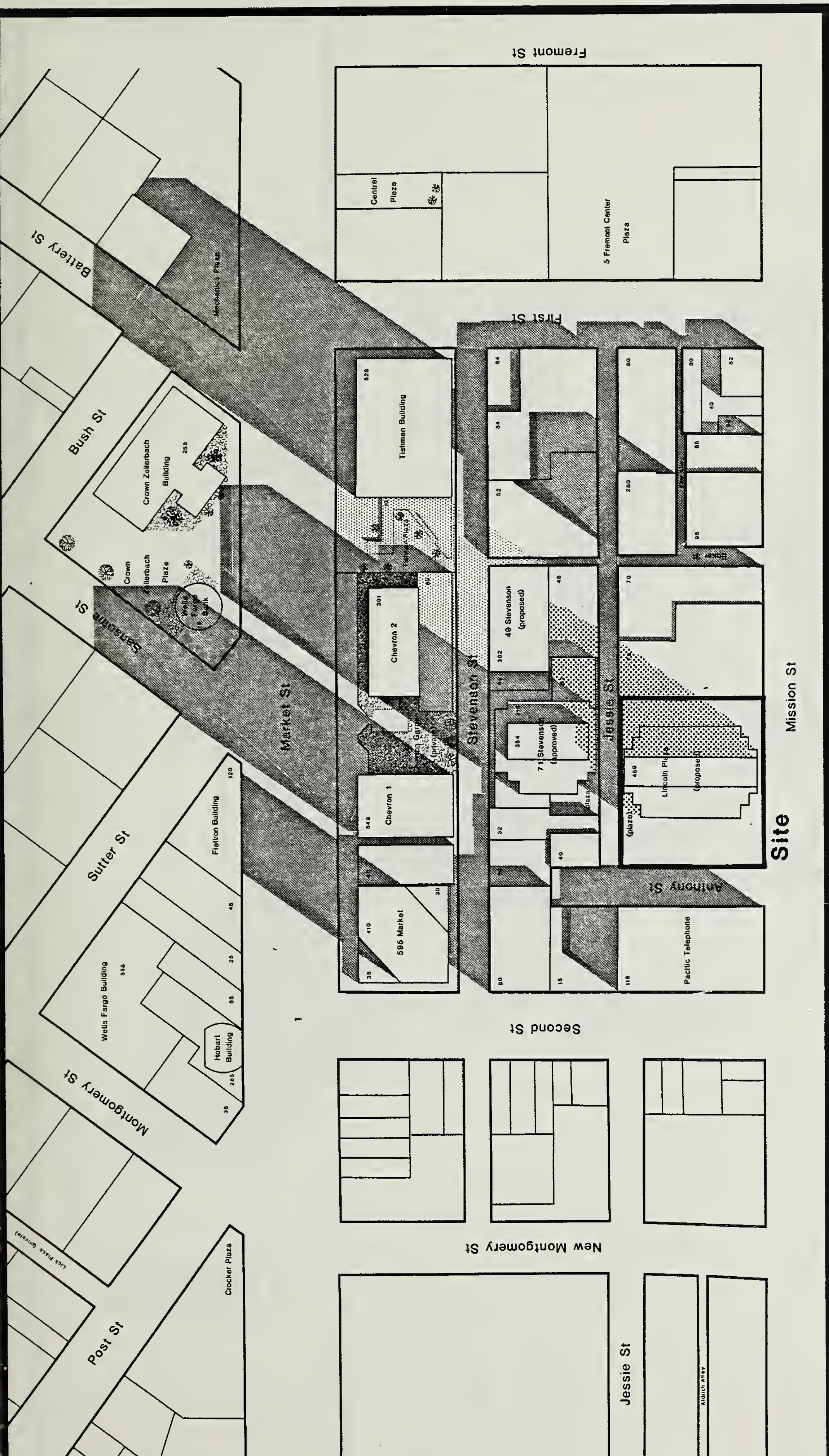


FIGURE 27

LINCOLN PLAZA SHADOW PATTERN

MARCH 21 NOON P.S.T.

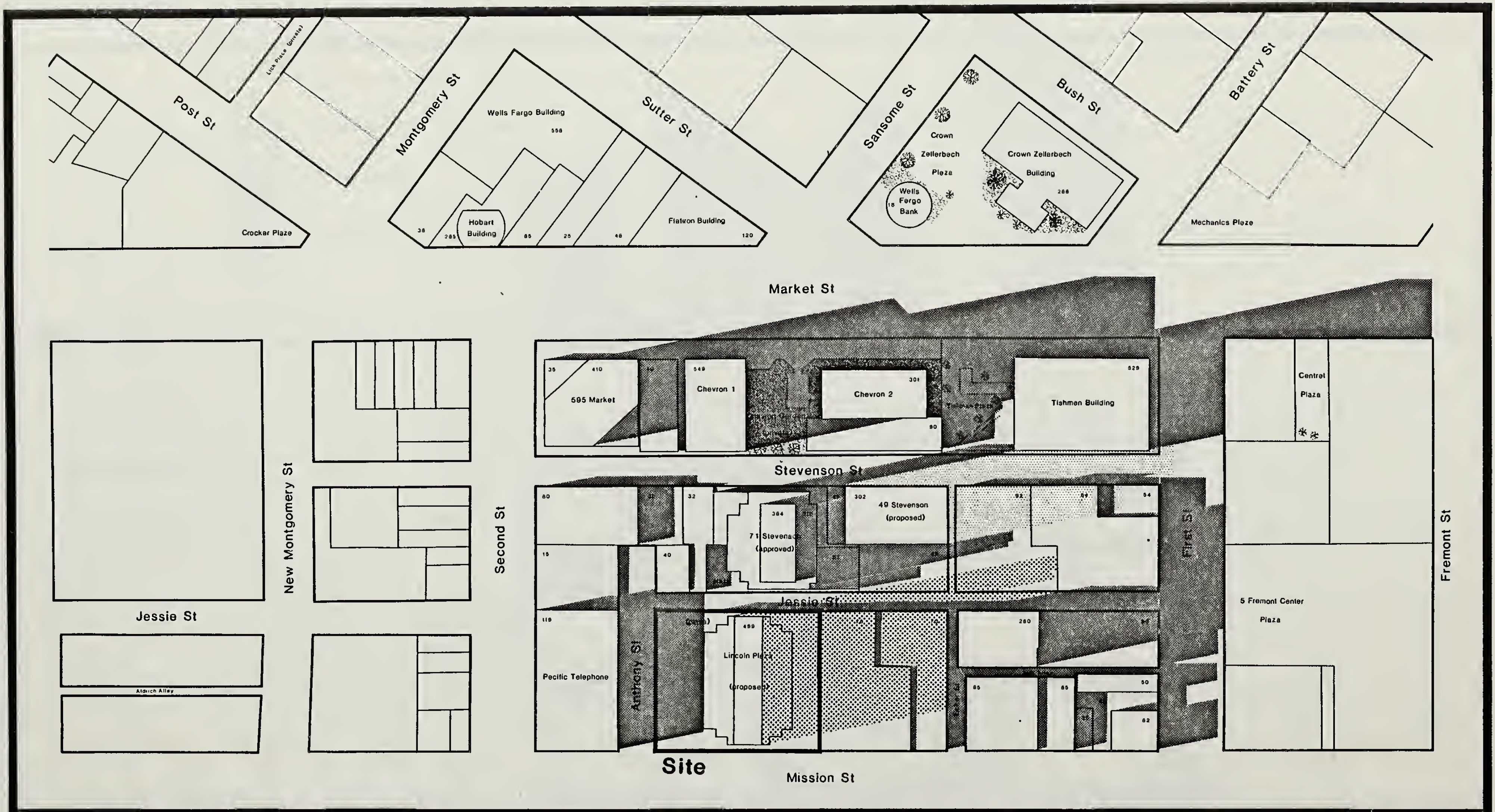
LEGEND

| | |
|---|---|
| ▨ | Existing Shadow |
| ▩ | Project Shadow |
| ░ | 49 Stevenson (proposed) Shadow |
| ┈ | Elevated Open Space |

N

0 50 FEET

SOURCE: Bendix Environmental Research, Inc.



LEGEND

▨ Existing Shadow

▩ Project Shadow

░ 49 Stevenson (proposed) Shadow

........ Elevated Open Space

FIGURE 28

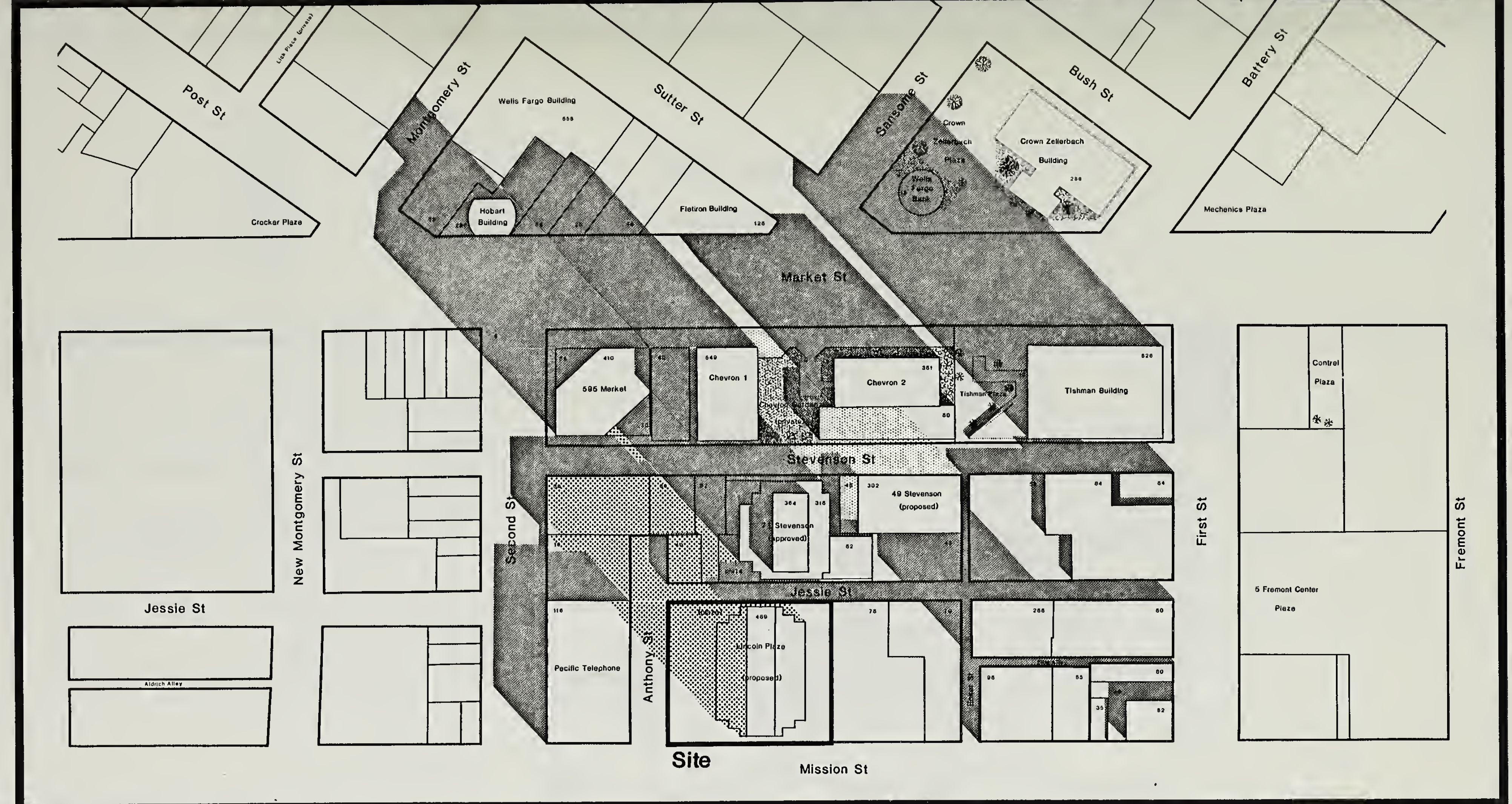
LINCOLN PLAZA SHADOW PATTERN

MARCH 21 2 P.M. P.S.T.

N

0 50
FEET

SOURCE: Bendix Environmental Research, Inc.



LEGEND

▩ Existing Shadow

▒ Project Shadow

░ 49 Stevenson (proposed) Shadow

Elevated Open Space

FIGURE 29

LINCOLN PLAZA SHADOW PATTERN

JUNE 22 10 A.M. P.D.T.

N

0 50
FEET

SOURCE: Bendix Environmental Research, Inc

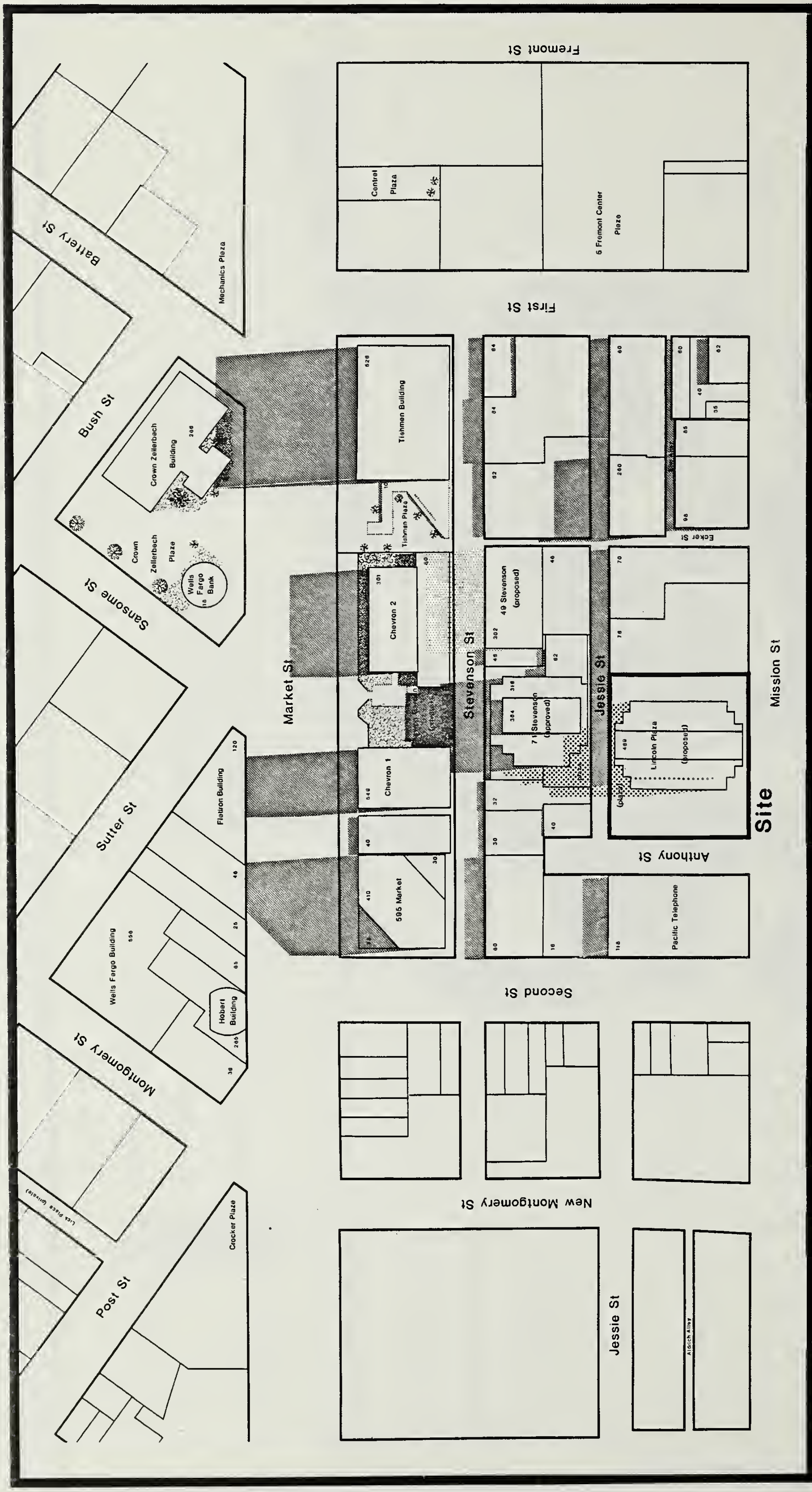


FIGURE 30

LINCOLN PLAZA SHADOW PATTERN

JUNE 22 NOON P.D.T.

LEGEND

▨ Existing Shadow

▩ Project Shadow

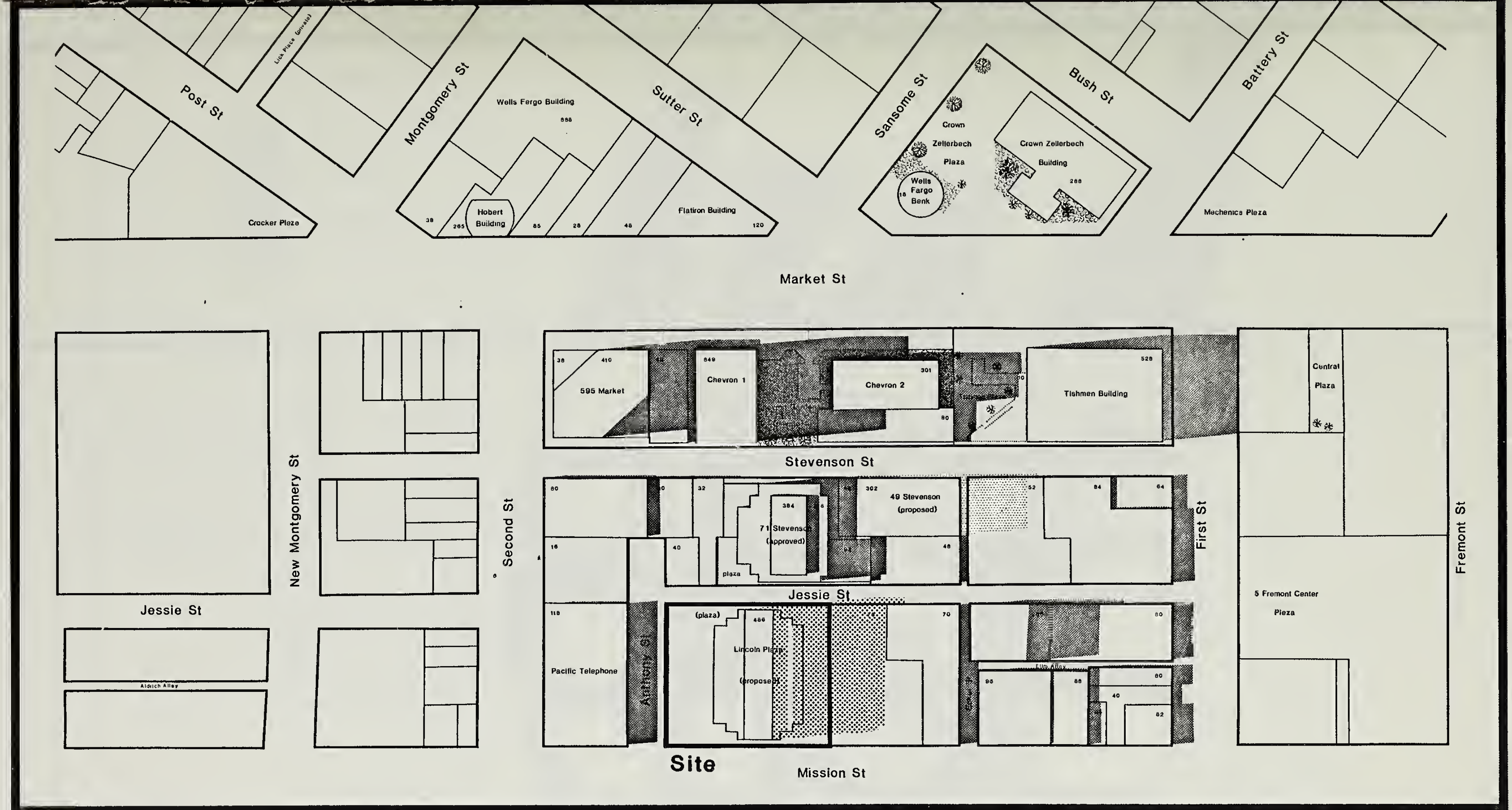
░ 49 Stevenson (proposed) Shadow

┈ Elevated Open Space

N

0 50 FEET

SOURCE: Bendix Environmental Research, Inc.



LEGEND

- ▩ Existing Shadow
- ▒ Project Shadow
- ░ 49 Stevenson (proposed) Shadow
- Elevated Open Space

FIGURE 31

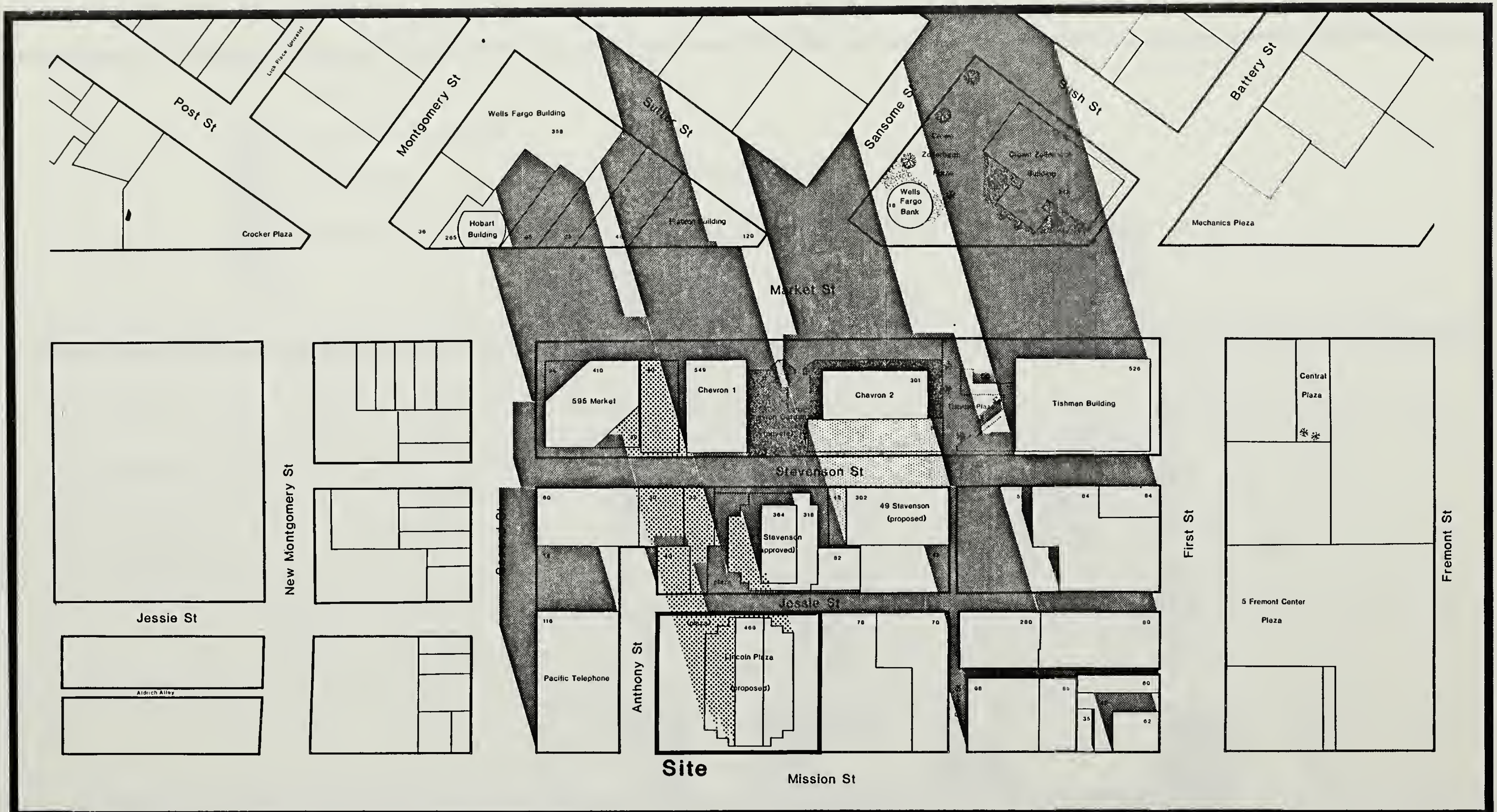
LINCOLN PLAZA SHADOW PATTERN

JUNE 22 2 P.M. P.D.T.

N

0 50
FEET

SOURCE Bendix Environmental Research, Inc



LEGEND

- ▩ Existing Shadow
- ▨ Project Shadow
- ░ 49 Stevenson (proposed) Shadow
- Elevated Open Space

FIGURE 32

LINCOLN PLAZA SHADOW PATTERN

SEPTEMBER 24 10 A.M. P.D.T.

N

0 50
FEET

SOURCE: Bendix Environmental Research, Inc.

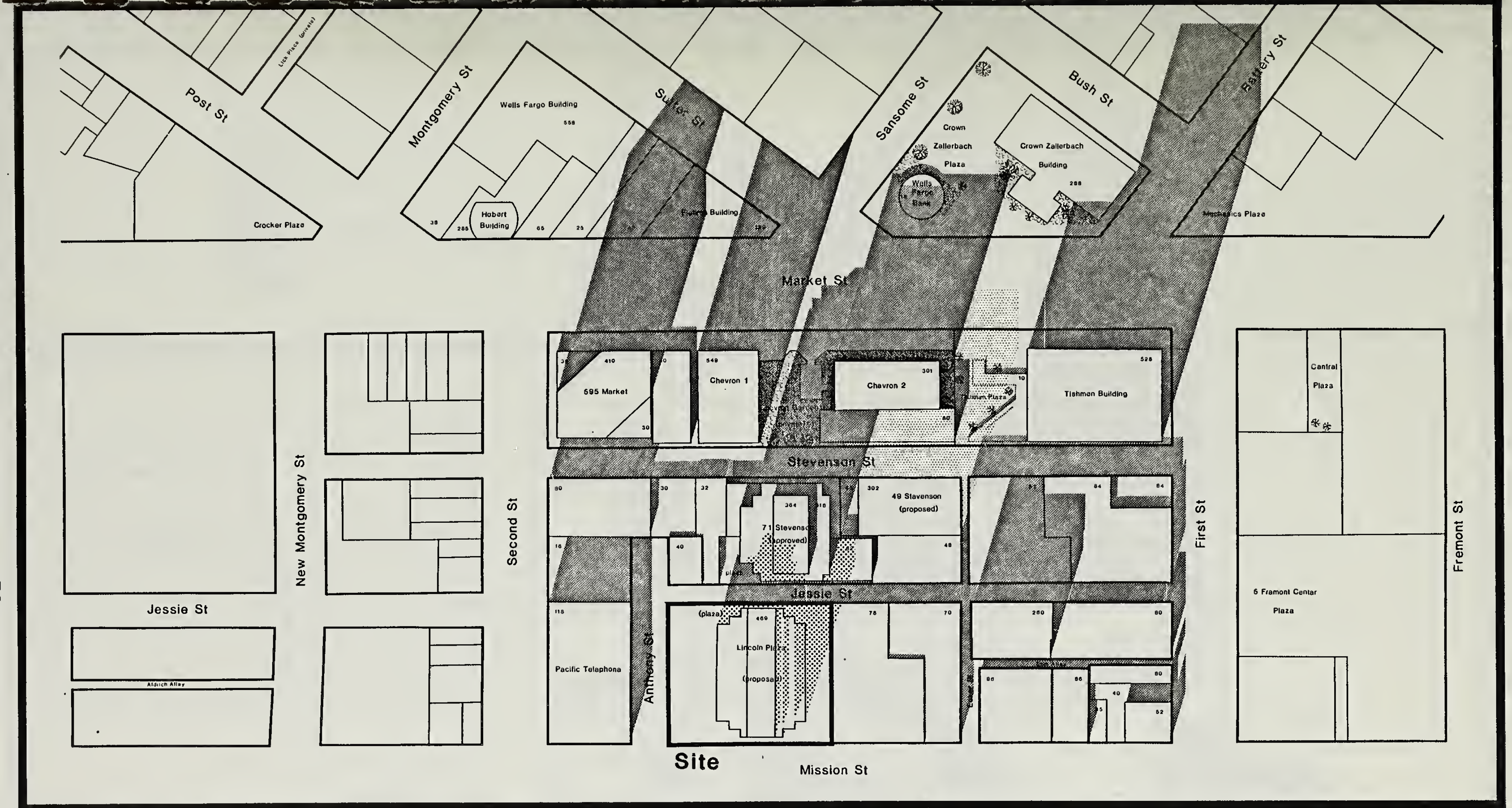
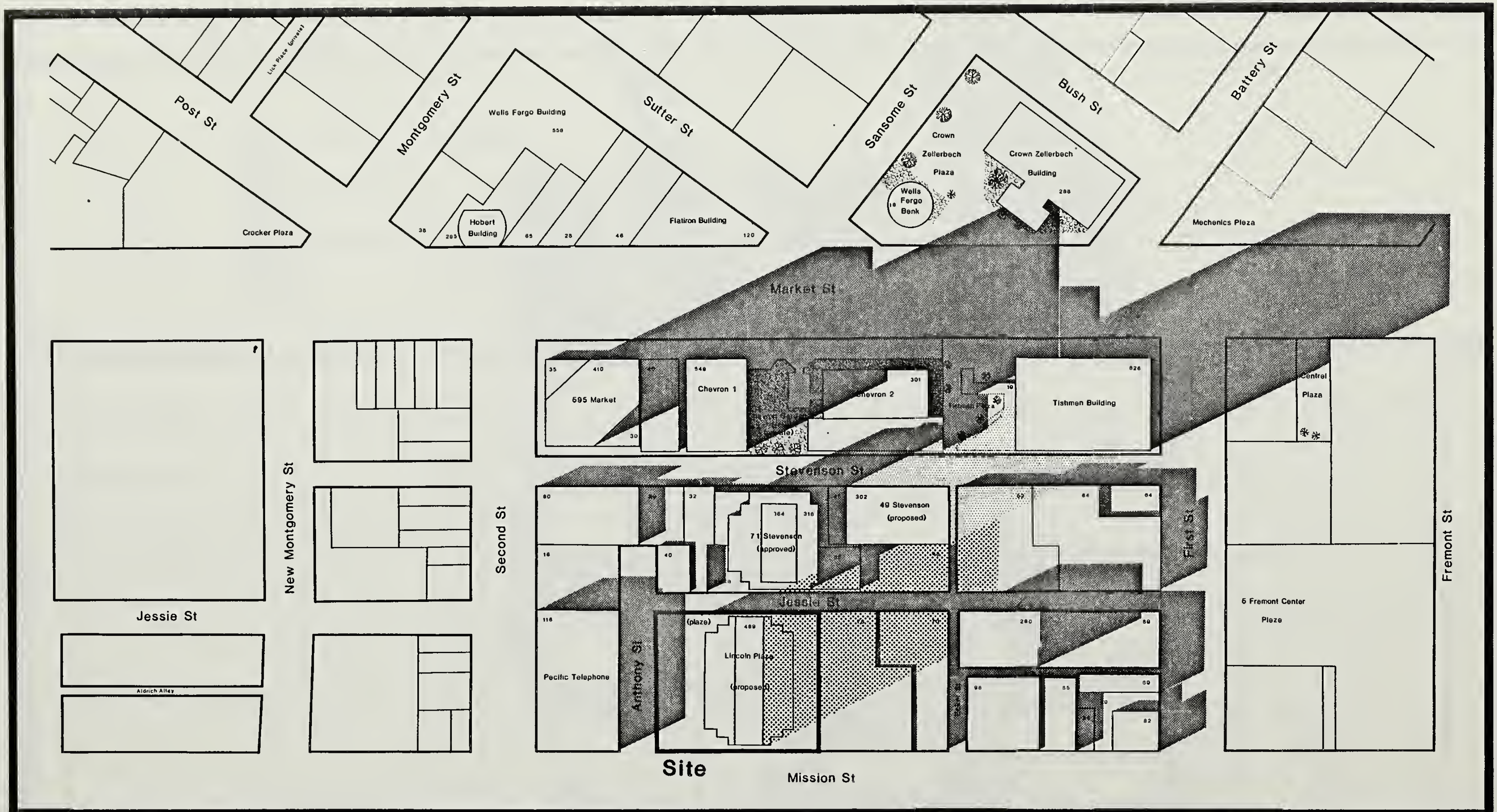


FIGURE 33

LINCOLN PLAZA SHADOW PATTERN

SEPTEMBER 24 NOON P.D.T.

SOURCE: Bendix Environmental Research, Inc



LEGEND

▨ Existing Shadow

▩ Project Shadow

░ 49 Stevenson (proposed) Shadow

........ Elevated Open Space

FIGURE 3.4

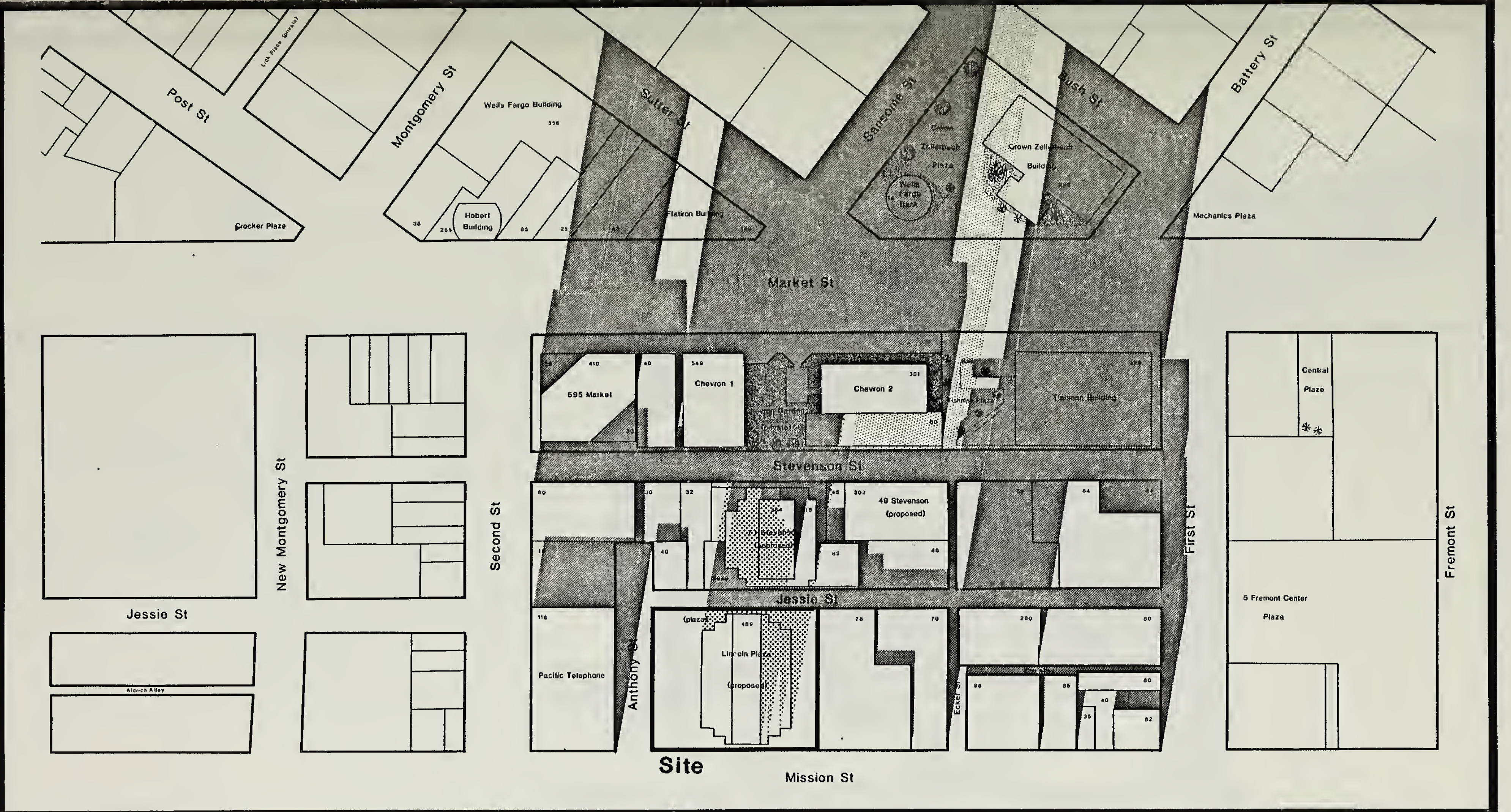
LINCOLN PLAZA SHADOW PATTERN

SEPTEMBER 24 2 P.M. P.D.T.

N

0 50
FEET

SOURCE: Bendix Environmental Research, Inc



LEGEND

▨ Existing Shadow

▨ Project Shadow

▨ 49 Stevenson (proposed) Shadow

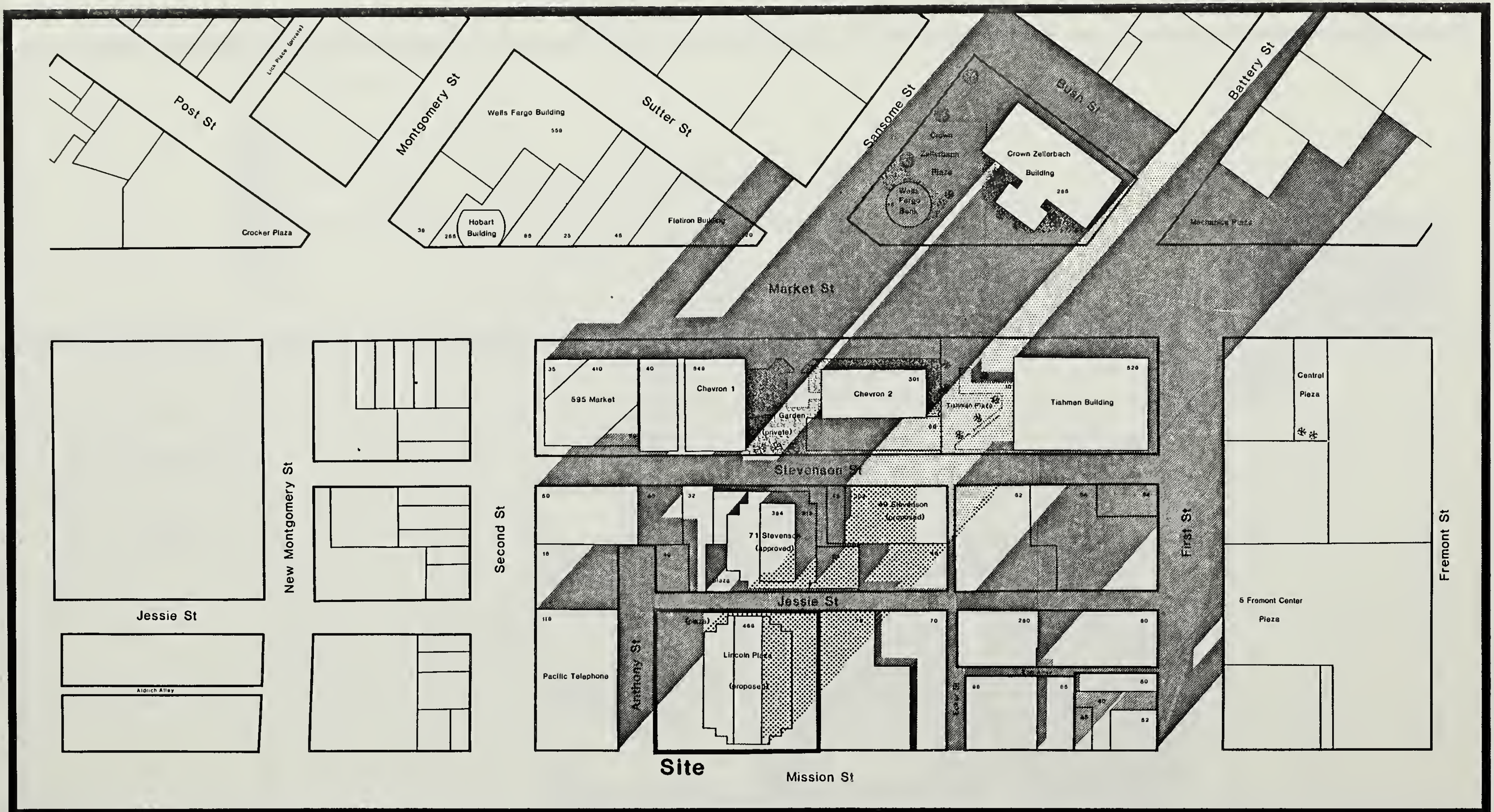
Elevated Open Space

FIGURE 35

LINCOLN PLAZA SHADOW PATTERN

DECEMBER 22 10 A.M. P.S.T.

SOURCE Bendix Environmental Research, Inc.



LEGEND

▨ Existing Shadow

▩ Project Shadow

░ 49 Stevenson (proposed) Shadow

┄ Elevated Open Space

FIGURE 36

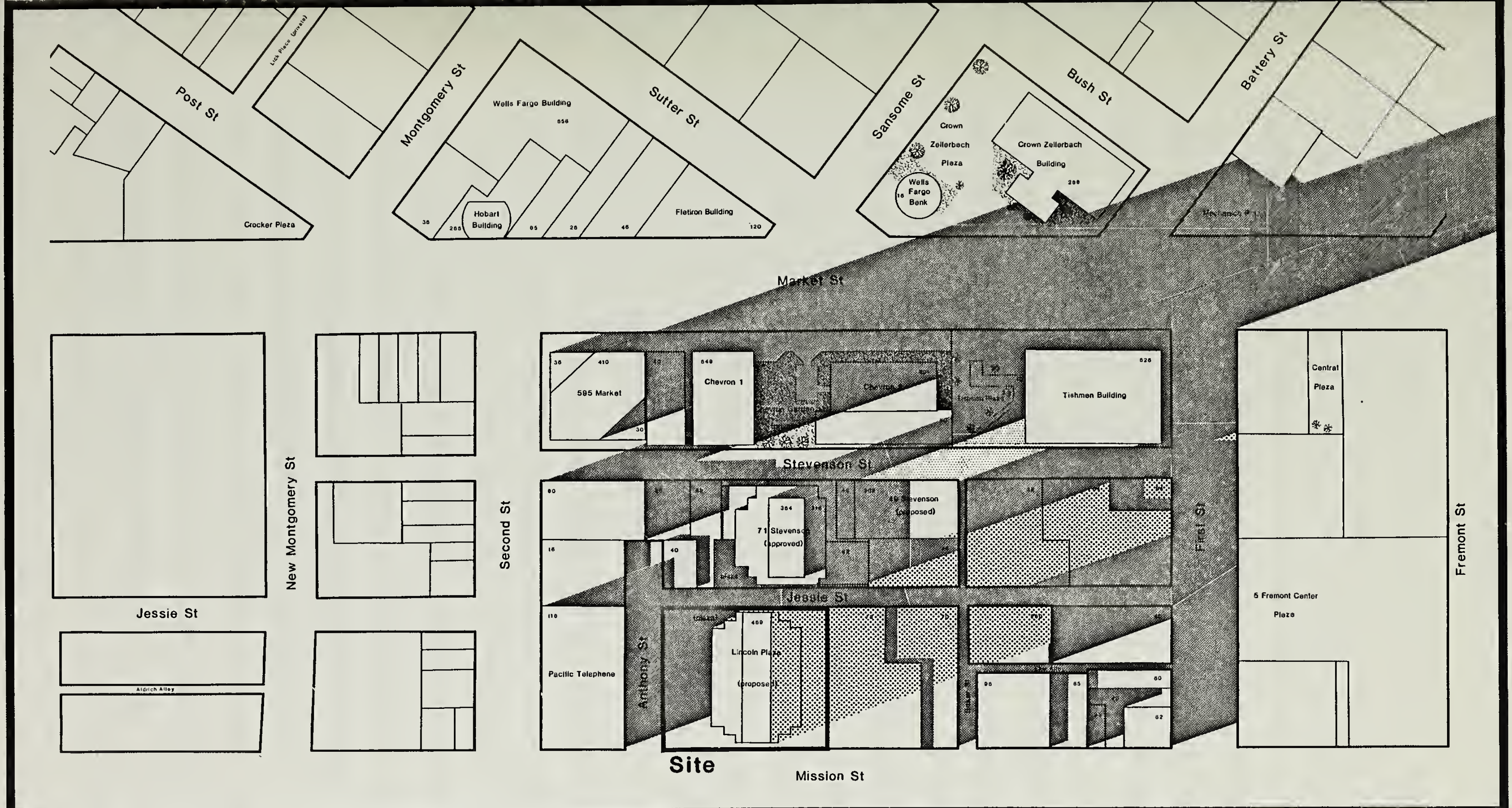
LINCOLN PLAZA SHADOW PATTERN

DECEMBER 22 NOON P.S.T.

N

0 50
FEET

SOURCE: Bendix Environmental Research, Inc.



LEGEND

▨ Existing Shadow

▨ Project Shadow

▨ 49 Stevenson (proposed) Shadow

Elevated Open Space

FIGURE 37

LINCOLN PLAZA SHADOW PATTERN

DECEMBER 22 2 P.M. P.S.T.

N

0 50
FEET

SOURCE Bendix Environmental Research, Inc.

## Pedestrian Comfort

Four factors determine thermal comfort for a person wearing casual clothing during the daytime in San Francisco: Sunlight, wind, temperature, and humidity. Thermal comfort is defined by a range of temperature and humidity in which approximately 70% of the population will feel comfortable. Comfort zones differ from person to person depending on individual physiology and amount of clothing worn. Sun and wind act as opposite forces influencing thermal comfort. For example, an eight mile per hour wind would detract from the comfort of an individual who would otherwise be comfortable. Conversely, direct sunlight can create thermal comfort in a windy and/or cool environment for a person who would otherwise feel uncomfortable.

Average temperatures and humidities for San Francisco typically fall outside the zone of comfort for a person at rest in the shade. This situation worsens as windspeeds increase. Thus, sunlight is an important factor for maintaining thermal comfort for pedestrians in San Francisco.

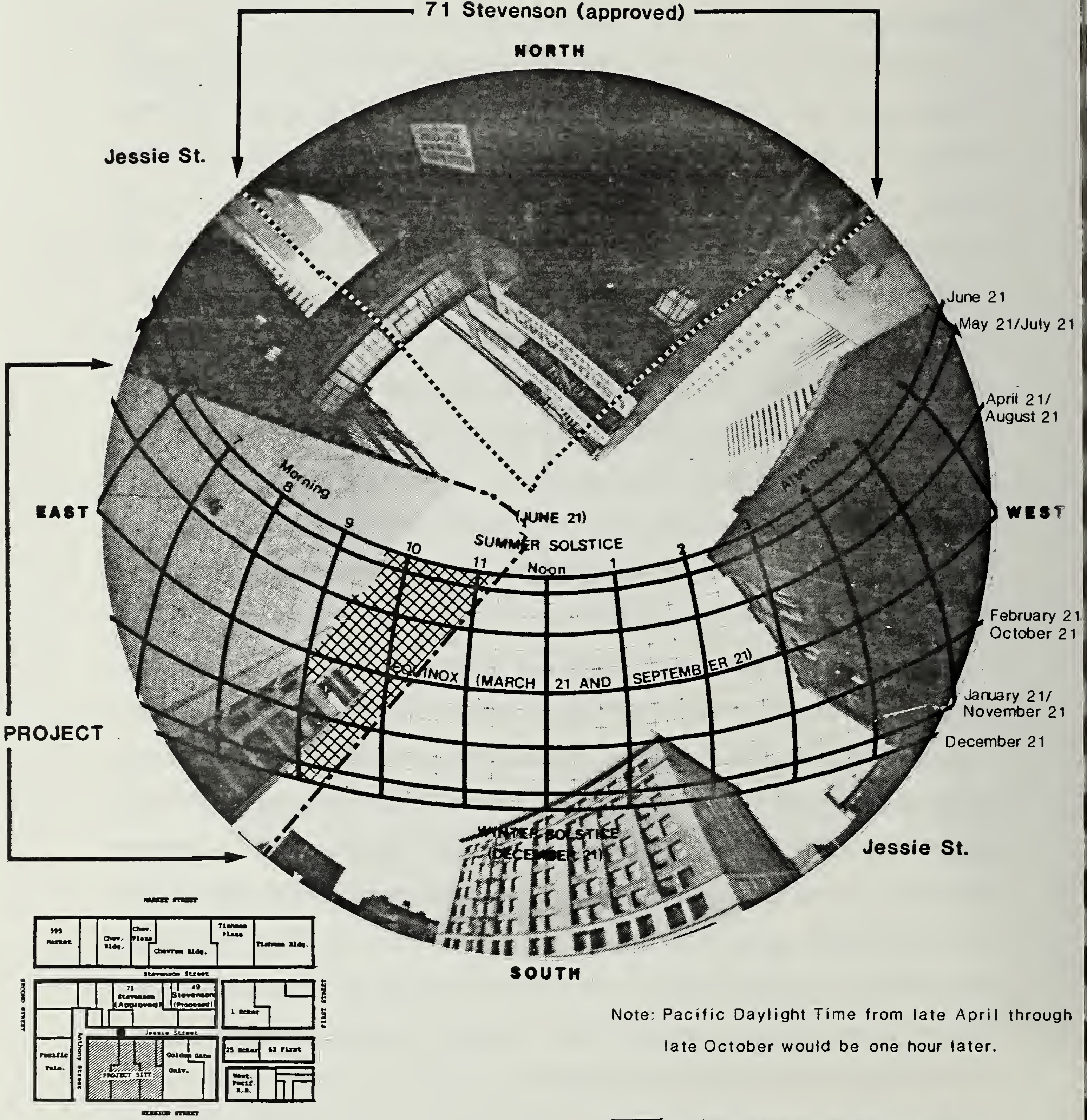
Wind speeds around the proposed plaza would range from about three to seven miles per hour (mph) during the summer months when wind velocities are generally the greatest. These winds are usually absent during the morning hours and increase over the course of the afternoon. In the summer the plaza would be shaded in the morning and fully accessible to sunlight by one pm. On a clear day the plaza would be comfortable assuming normal summer temperatures and winds. July and August are San Francisco's foggiest months and it is not unusual for the entire downtown area to be overcast most of the day. This situation, combined with afternoon winds, would make the plaza less comfortable for pedestrians. The many variables contributing to pedestrian comfort make exact analysis difficult. The average range of temperatures interacting with wind, sun, and humidity produce a wide variety of results that then must be applied to a hypothetical average individual who may or may not be comfortable in an open plaza.

## Sun Access

Figures 38-39 (pp. 86-87) show daily and year round sun access to two locations, one to the north and one south of the project site. Times shown are Pacific Standard Time (P.S.T.); for the months of May through October Pacific Daylight Time is in effect and times are one hour later. Figure 38 is a fish-eye lens view taken from Jessie St. between the approved 71 Stevenson project and the proposed Lincoln Plaza Project. The shaded area shows the net new area that would interrupt sun access to this location on Jessie St. if the project were built. The project would block direct sunlight for approximately one hour during June (10-11 am, P.S.T.). As the year progresses, this hour of blockage would occur earlier each day (9-10 am P.S.T. during September) decreasing to a 15 minute period in the morning (9-9:15 am, P.S.T.) by winter. From winter to summer the sun access description for this location would reverse, increasing to one hour of blockage (9-10 am P.S.T.) by March and occuring later each day until June when the one hour period of occlusion would be again from 10-11 am (P.S.T.).

Figure 39 (p. 87) is a fish-eye view taken from Mission St. in front of the proposed plaza. Sun exposure to this location would be blocked by existing development only. The most noticeable blockage would be during the late afternoon (3 pm - sunset, P.S.T) when the Pacific Telephone building directly west of the site across Anthony St. would block sun access to this location on Mission St. for the majority of the year. This location would be open to direct sunlight from 7 am to 2 pm (P.S.T.) eight months out of the year, from February to October.

Figure 38 Sun Path Analysis



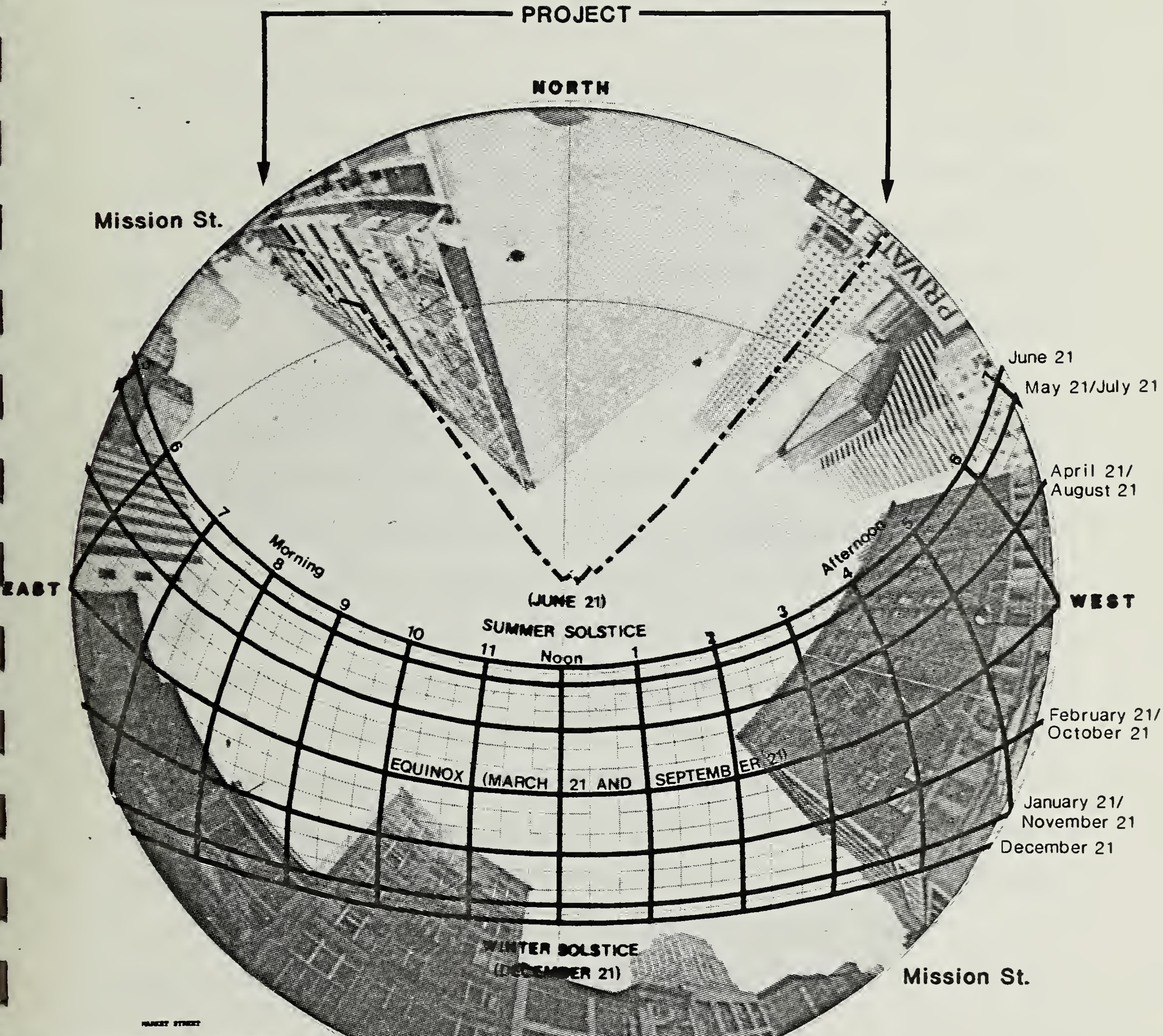
Note: Pacific Daylight Time from late April through late October would be one hour later.

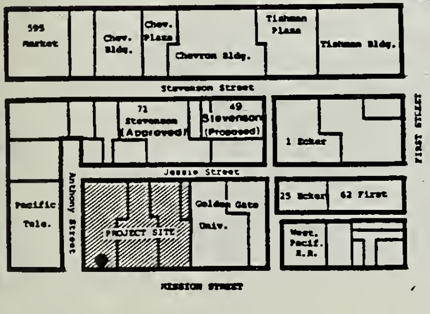
● Location of Photo

▨ Shaded area represents net new sun blockage by project

SOURCE: Donald Ballanti

## Figure 39 Sun Path Analysis





● Location of Photo

SOURCE: Donald Ballanti

Note: Pacific Daylight Time from late April through late October would be one hour later.

Note: Although Lincoln Plaza would be larger than existing buildings on the site it would not increase shade at this location.

## Wind[1]

Wind tunnel tests were conducted for west, southwest and northwest winds. Winds come from these directions approximately 97% of the time during the five summer months, when winds tend to be the strongest. The frequency of each wind direction should be taken into account when interpreting wind tunnel results. The prevailing winds come from the west, about 73% of the time during the summer months, or about 110 days; from the southwest about 13.5% or 20 days; from the northwest 10.5% or 16 days; and from other directions 3% of the time or about four days.

Ten development scenarios, consisting of various combinations of the three then proposed projects (Lincoln Plaza, the approved 71 Stevenson, and 49 Stevenson) on Block 3708, were tested in the wind tunnel. The study was performed on a previous design of Lincoln Plaza (the glass entry atrium has since been removed from the design) but this change would not substantially alter the windspeed data shown in this report.[2] Each development scenario was tested under west, northwest and southwest wind conditions. Wind Tunnel results for four development scenarios appear in Appendix IV, p. A-41: existing setting, Lincoln Plaza in conjunction with 71 Stevenson, 71 Stevenson alone and Lincoln Plaza alone (see Table A-3, p. A-40, for a list of scenarios tested).

---

1. Wind Tunnel Analysis by Dr. Bruce White, for 71 Stevenson EIR, 81.493E (certified June 16, 1983) and the Lincoln Plaza EIR as subcontractor to Environmental Science Associates. Complete report and description of test facility are available for review at the Department of City Planning Office of Environmental Review, 450 McAllister Street, 5th floor, San Francisco, CA 94102.
2. Letter to BERI from Donald Ballanti, Consulting Meteorologist, August 18, 1983.

With the project, southwest winds would exceed the comfort criterion[1] by one mile per hour on portions of Mission and Jessie Sts. in the afternoon about 10 days during the summer. The comfort criterion would not be exceeded during west and northwest winds for the scenarios tested. The hazard criterion[2] would not be expected to be exceeded at any time.

Southwest Winds (worst case). The site is exposed to southwest winds for an average of 20 days during the May through September period. The area upwind of the proposed project currently contains few large building structures or sizable topographic features that would alter the wind direction or retard the wind speed, resulting in an unobstructed wind pathway to the project site. Southwest winds nearly align with Market, Mission, Jessie and Stevenson Sts., funneling winds along these streets. As a result of the site's southwest access, southwest windspeeds would exceed the comfort criterion in some areas on Jessie and Mission Sts. after the construction of Lincoln Plaza. Wind tunnel results for Lincoln Plaza alone compared with existing wind velocities indicate windspeeds on Jessie St. would increase from the existing 3-6 mph to about 4-12 mph. On Mission St. the increase would be from the existing 3-4 mph to about 9-12 mph, thus at some times during a 20 day period during the summer the comfort criterion would be exceeded by one mph (see Appendix IV Figs. A-1 - 4 pp. A-41 - A-44).

With the addition of both the approved 71 Stevenson and the Lincoln Plaza projects (Appendix IV, Fig. A-4, p. A-44), windspeeds would increase

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1. Comfort Criterion = Windspeed of 11 mph, representing the condition in which pedestrian discomfort begins to occur. Definition from the Wind Tunnel Study, prepared by Dr. B. R. White, for Environmental Science Associates and Bendix Environmental Research, Inc.
2. Hazard Criterion = Windspeed of 25 mph or greater, representing condition hazardous to elderly or disabled persons Definition from Wind Tunnel Study, prepared by Dr. White.

on Stevenson, Jessie and Mission Sts. Windspeeds on Stevenson St. would increase from an existing 4-8 mph to 5-12 mph; on Jessie St. windspeeds would increase from 3-4 mph to 4-15 mph; and on Mission St. windspeeds would increase from 3-4 mph to 4-16 mph. The increased windspeeds would probably be due to the channelling of winds between buildings on these streets. Under worst case conditions, the winds on Anthony St. would increase 2 mph; from 4-6 mph to 5-7 mph. The highest average windspeed of 16 mph on Mission St., would be 5 mph above the comfort criterion of 11 mph and 9 mph below the hazard criterion of 25 mph.

Wind speeds in the proposed plaza during southwest wind conditions, would increase from an existing 4-6 mph to about 5-7 mph assuming construction of both 71 Stevenson (recently approved) and Lincoln Plaza. Assuming construction of Lincoln Plaza only, windspeeds would range from 4-8 mph under southwest wind conditions. Neither scenario would exceed the comfort criterion. The actual windspeeds would be expected to be less than the predicted windspeeds on one-half and greater than predicted on one-half, of the 20 total days of southwest winds in the summer.

West Winds. The existing wind speeds, and the wind tunnel results for the project without and with the proposed 71 Stevenson project under west wind conditions are shown in Appendix IV, pp. A-45 - A-48. For west winds the project site is sheltered by existing highrises along Market St. The proposed project alone would cause increased winds along Jessie St. north of the site and on Mission St., but little change (less than 1 mph) elsewhere. The addition of 71 Stevenson would have little further impact on windspeeds in the area. The comfort criterion would not be approached within the study area with both projects constructed; average windspeeds would be less than 6 mph. Existing windspeeds in the plaza area would remain approximately the same as existing conditions.

Northwest Winds. Wind tunnel results, including existing windspeeds, for the proposed project under northwest wind conditions are shown in Appendix IV, pp. A-49 - A-52. The site is sheltered from northwest winds by existing high-rise buildings along Market St. Windspeeds along a portion of Jessie would increase with the project to a maximum of 3.6 mph from 0.9 mph. For other areas of Jessie and Mission Sts. windspeeds would range from 8.5 to 10 mph below the 11 mph comfort criterion. Plaza wind conditions would remain approximately the same. The cumulative results for the project and the proposed 71 Stevenson project indicate there would be little change from the existing windspeeds, which are below the comfort criterion. In general, for northwest winds, windspeeds in and around the plaza caused by both projects would be less than if either project were constructed alone.

Table 4, p. 92, compares windspeeds on the project block under southwest wind conditions for the four development scenarios and existing conditions. Assuming both 71 Stevenson and Lincoln Plaza were built, increases in windspeeds in the project vicinity would be caused by both projects. Comparison of the individual impacts of each project with the combined impact, indicates which project would be primarily responsible for the windspeed increases in each area in which the comfort criterion might be exceeded.

Table 4. SOUTHWEST WIND IMPACTS FOR AREAS POTENTIALLY EXCEEDING THE COMFORT CRITERION: LINCOLN PLAZA AND 71 STEVENSON PROJECTS (in miles per hour, mph)

| Location | Development Scenario | | | | Primary Cause of Impact |
|---|---|---|---|---|---|
| | Existing | Lincoln PLaza Alone | 71 Stevenson Alone* | 71 Stevenson and Lincoln Plaza | |
| Stevenson St., between Chevron Garden & 71 Stevenson. | 3-5 | 3-5 | 7-9 | 8-12 | 71 Stevenson |
| Jessie St., between Lincoln Plaza & 71 Stevenson. | 3-4 | 10-12 | 8-12 | 13-15 | 71 Steveson & Lincoln Plaza |
| Mission St., in front of Lincoln Plaza, both sides of Mission St. | 3-5 | 10-12 | 3-8 | 4-16 | Lincoln Plaza |

* See Appendix IV, p. A-40, for wind tunnel study results for development scenario testing 71 Stevenson alone.

Source: Wind Tunnel Study, prepared for Environmental Science Associates, and Bendix Environmental Research, Inc.

## D. EMPLOYMENT, HOUSING AND FISCAL CONSIDERATIONS

### Employment

Construction activities are expected to take about 24 months and to generate 640 person-years of construction labor.[1] The average construction employment would be about 430 full-time positions at any one time during construction. As a result of a multiplier effect, project construction could generate about 990 additional person-years of employment.[2]

The businesses and 370 employees presently occupying the site would be displaced by the project. Upon full project occupancy, about 2,100 permanent jobs would be provided for office, retail and janitorial maintenance functions as follows: about 2,000 office workers (at one worker per 275[3] sq. ft. of office space for 558,000 sq. ft.), 27 retail workers (at one worker per 350 sq. ft. for 9,000 sq. ft.) and about 61 janitorial/service workers (at one worker per 12,000 sq. ft. for the entire building). Subtracting existing employment at the site, the net number of jobs gained with the project would be about 1,700.

The jobs directly generated by the proposed project would create additional employment through the multiplier effect. Assuming that the new jobs created as a result of the project were primarily in the retail, finance, insurance and real estate sectors, about 2,000 additional jobs in other sectors of the Bay Area economy could result.[1] The largest percentage of the secondary jobs, about 33%, would be expected to be in services and government.[2]

---

[1] An estimated $35 million (1983 dollars) would be spent during construction. Employment estimate assumes labor costs would be about 55% of the total ($35 million x 55% = $19,000,000), including direct wages, payroll taxes and fringe benefits, and annual cost of $30,000 per construction worker.

[2] All multipliers based on the Bay area Input-Output Model from Cooperative Extension Service, UC Berkeley, San Francisco Bay Area Input-Output Model 1967-1974. This is equivalent to a multiplier of 1.55: for each person-year of employment supported by project construction, an additional 1.55 person-years of secondary employment would be supported.

[3] Growth Management Alternatives for Downtown, Vol. I, Table IV.C.2., Environmental Science Associates, May, 1983.

The multiplier effect would be spread over the Bay Area; thus it is not possible to calculate the specific number of additional jobs in San Francisco alone as a result of the multiplier effect. It is probable that some of the additional jobs would be in San Francisco including, for example, bicycle messengers, bus drivers and copy machine technicians.

Part of the indirect employment in San Francisco due to the project would result from expenditures by project employees (as opposed to project-related business). Earlier studies have estimated that each downtown employee who lives in San Francisco would support an additional 0.6 jobs in San Francisco, while each non-resident permanent employee would support 0.13 additional jobs.[3] Using these factors, at least 680 of the 2,000 secondary jobs would be expected to be in San Francisco.[4] The total number of permanent new Bay Area jobs that would be supported by the project's addition to the stock of downtown office space would be about 3,700 (the 1,700 net primary jobs plus 2,000 secondary jobs).

---

1. Multiplier for finance, insurance and real estate (FIRE) jobs equivalent to 1.18, based on the Bay Area Input-Output Model from Cooperative Extension Service, UC Berkeley, San Francisco Bay Area Input-Output Model 1967-1974.
2. Based on the Bay Area Input-Output Model from Cooperative Extension Service, UC Berkeley, San Francisco Bay Area Input-Output Model, 1967-1974. This is a rough estimate because job distribution has shifted since 1974 and because the San Francisco job mix is not the same as the average Bay Area job mix.
3. Bank of America Data Center FEIR, EE 74.128, 1975, pages 92-93.
4. Growth Management Alternatives for Downtown, Vol. I, Table V.D.1, states that in 1980 about 51% of San Francisco jobs were held by residents, Environmental Science Associates, May, 1983.

## Housing

According to the methodology of one study it is estimated that 15-30% of the people newly employed in San Francisco as a direct result of the Lincoln Plaza project would move to San Francisco. It is estimated that 260 to 510 office workers might move to the City as a result of the project. This approach estimates an average of 1.4 San Francisco workers in each San Francisco household.[1] Using this set of assumptions, the project would result in a demand for 190 to 360 dwelling units in San Francisco.

Based on the City Office Housing Production Program formula, housing demand due to the project would be 370 units.[2] This estimate assumes 250 sq. ft./employee for office projects, that 40% of these new San Francisco office workers would reside in San Francisco, and that there would be 1.8 office workers per household containing San Francisco office workers. Existing office space on site has been subtracted in the calculations to yield net new housing demand due to the project. Housing demand would be for 330 units, about 10% lower, if 275 sq. ft./employee were used.

The housing stock in the City has not been expanding at a rate adequate to accommodate the needs of all the employees who might move into San Francisco. A variety of factors, including interest rates and housing construction rates affect housing prices in both the City and the Bay Area. High interest rates and low housing construction rates characterized the housing market of late 1982 and early 1983. A March-May 1983 decline in interest rates encouraged housing starts and demand for housing real estate.[3]

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1. This estimate is based on the Recht Hausrath Associates analysis in the 101 Montgomery Street Final EIR, EE 80.26, certified May 7, 1981, pp. 289-99, and hereby incorporated by reference.
2. (558,000 gross sq.ft. office space - 140,000 existing sq.ft. divided by 250 sq. ft. per employee) x (40% divided by 1.8) = 370 dwelling units.
3. San Francisco Chronicle, "Housing Starts Soar in May," June 17, 1983.

However, recent (late May) increases in interest rates reportedly have caused a decrease in demand for housing loans and reduced housing starts.[1] It is not known at this time whether interest rates will continue to increase; long-term changes and effects on housing supply are difficult to predict.

There is no specific data available on population turnover in the City due to changes in housing costs. San Francisco household size has decreased. In general, the segment of San Francisco's population under 25 years old has declined, while the number of residents between 25 and 44 years, particularly between 25 and 34 years old, has increased.[2] This suggests that more of San Francisco's population is of working age, the number of households is rising and household income may be rising. In this situation, those residents on fixed incomes and/or with relatively large households are at a disadvantage in terms of their ability to afford housing. The extent to which this population shift has been augmented by changes in housing prices and the relation of such effects to office building development cannot be reliably quantified. For a further discussion of office-related housing demand see the Final EIR for 333 Bush Street, 81.461E, certified December 16, 1982, pp. 88-91, which is hereby incorporated by reference.

Office workers employed in the project would contribute to the cumulative impact of office development upon City and regional housing demand. Project demand would be about 2% of the 16,000-unit office project-related

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1. San Francisco Chronicle, "Rising Mortgage Rates Blunt Recovery in Housing Market," August 29, 1983.
2. California Employment Development Department, Annual Planning Information, San Francisco City and County, 1981-1982, p. 3; Bureau of the Census, 1980 Census information: File STF 1-A, March 1982, Report 1, Table 10; Bureau of the Census, 1970 Census: Census Tracts (PHC(1)-189), April 1972, p. 3.

housing demand due to 18 million sq. ft. of net new office space under formal review, approved or under construction.[1]

## Fiscal

Revenues. The proposed project would generate revenues from property, business, utility and sales taxes. Project improvements would be assessed at full value, which has been set equal to replacement costs for the purpose of this analysis. Construction costs for the entire project are estimated to total $35 million (1983 dollars). Subtracting the existing assessed value for improvements to be replaced at the site due to the project, the additional assessed value contributed by the project would be about $33 million.

Property Tax. Based on the project's projected net market value of about $33 million, total property tax revenues generated by the project would be approximately $390,000. Of this, about $330,000 would be non-bond property tax revenues, and about $56,000 would be bond payment revenues.[2]

It is not known at this time how the property taxes would be distributed in the year of completion of the project. Applying the 1982-83 rate, an estimated $290,000 of the non-bond property tax revenues would accrue to the City's General Fund. This would be a net increase of about $270,000 over non-bond property tax revenues from existing development. San Fran-

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[1] The 16,000 units is calculated by the same formula used to calculate the 370-unit project demand, using Department of City Planning figures of June 1, 1983 (see Appendix V, pp. A-53 to A-59, for a list of projects included).

[2] These calculations are based on a 1982-83 property tax rate of $1.17 for every $100 of assessed valuation ($1.00 = non-bond property tax rate; $0.17 = bond payment property tax revenue rate).

Table 5. DISTRIBUTION of PROPERTY TAX REVENUES
(1983 Dollars)

| Agency | Ad Valorem | % | Project Revenues | Existing Revenues[1] | Net Increase |
|---|---|---|---|---|---|
| CCSF | | | | | |
| General Fund | $0.875 | 74.7 | $290,000 | $27,000 | $270,000 |
| Open Space | 0.025 | 2.1 | 8,300 | 600 | 7,700 |
| Bond Repayment | 0.099 | 8.4 | 33,000 | 2,300 | 31,000 |
| SF Community College Distr. | 0.014 | 1.2 | 4,600 | 300 | 4,300 |
| SF Unified School District | | | | | |
| General Purpose | 0.078 | 6.7 | 26,000 | 1,800 | 24,000 |
| Debt Service | 0.008 | 0.7 | 2,600 | 200 | 2,400 |
| BAAQMD | 0.002 | 0.2 | 700 | 50 | 650 |
| BART | | | | | |
| General Fund | 0.006 | 0.5 | 2,000 | 100 | 1,900 |
| Debt Service | 0.063 | 5.4 | 21,000 | 1,400 | 20,000 |
| | $1.17 | 100.0 | $390,000 | $27,000 | $360,000[2] |

1. Based on a 1981-82 assessed valuation of $2.3 million.
2. Columns may not add due to rounding.

Source: Bendix Environmental Research, Inc.

cisco could receive an additional $360,000 from the project in annual composite property taxes (see Table 5, above).[1]

Business Tax. The Business tax is comprised of two taxes: a tax paid by the building owner(s) and one paid by tenants of the building. Tenants of the proposed building would pay either the payroll or gross receipts tax, whichever is greater.[1] Since the gross receipts of the businesses occupying the proposed project are impossible to predict, it is assumed for this analysis that each tenant would pay a payroll tax. At a payroll tax rate of 1.5%,[2] business tax revenues from the proposed building tenants would be approximately $738,000/year.[3]

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[1] Total composite property tax revenue expected to be generated by the project ($390,000) - revenue generated by existing development ($27,000) = $360,000 net property tax revenue.

Assuming that building owner(s) would pay a business tax based on gross receipts, at a tax rate of 0.3% on rental income, revenues from building owner(s) would be approximately $59,500-$68,000/year.[4] Thus, the total annual Business tax generated by the project would be $798,000-$806,000/year (see Table 6, p. 101).[5]

Utility Tax. Utility taxes are paid on the cost of electricity, gas, water, and telephone use. The total utility tax would be about $100,000.[6] The net gain would be about $91,000 (see Table 6, p. 101).

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1. The gross receipts tax is calculated by applying the rate specific to a firm's business classification to the firm's gross receipts; rates range from one to two dollars per $1,000. The payroll tax is calculated by applying a rate of 1.5% to a firm's reported payroll.
2. Rate based on San Francisco Tax Collector's Office, telephone conversation, June 15, 1983.
3. 2,000 office employees x $24,600/yr. (avg. salary in 1982; see 333 Bush Street Final EIR, 81.175E, certified August 20, 1982) x 1.5% tax = $738,000.
4. 567,000 sq. ft. (558,000 sq. ft. of office and 9,000 sq. ft. retail) x $35-$40/sq. ft./yr. (avg. 1983 rate) x 0.3% tax = $59,500-$68,000/yr.
5. $738,000/yr. payroll tax revenue from tenants + $59,500-$68,000/yr. gross receipts tax revenue from building owner(s).
6. Utility tax calculations:
   Electricity: 8,625,000 kwh/yr. x $0.08/kwh = $690,000/yr.
   Gas: 115,000 therms/yr. x $0.55/therm = 63,000/yr.
   Water: 3.5 million cu. ft./yr. x $0.00464/cu. ft. = 160,000/yr.
   Sewage: 3.5 million cu. ft./yr. x $0.0115/cu. ft. = 400,000/yr.
   Telephone: 567,000 sq. ft./yr. x $1.40/sq. ft./yr. = $800,000/yr.
   TOTAL: $2,100,000/yr.
   Utility tax: 0.05 tax x $2,100,000/yr. = $100,000/yr.

   Estimates for electricity and gas tax revenues based on average consumption and current rates for commercial office space; telephone conversation with Gill Hensley, PG&E, September 12, 1983.

Sales Tax. Sales tax would be generated by both retail businesses in the project and through purchases made from businesses by project employees. On the average, retail space in the downtown generates about $2.66 in sales tax per sq. ft. per year. On this basis, the 9,000 sq. ft. of retail space in the project would contribute about $24,000 in sales tax.[1]

Employees are anticipated to make purchases totaling $3,000,000[2] annually, creating an additional $28,400 in sales tax revenues. Total sales tax revenues contributed by the project would be about $52,400.[3] Net gain would be approximately $47,400.

Net sales tax revenues generated by the 0.5% BART sales tax would be about $15,000. Of this total, BART would get about $11,300 (75%) directly and the remaining $3,700 (25%) would be distributed by the Metropolitan Transportation Commission among BART, Muni and AC Transit (see Table 6, p. 101).

A 15% parking tax collected by the proposed project's parking garage would generate about $17,000 in revenue to the General Fund, levied on annual gross receipts of $114,000.

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1. Sales tax revenue per 1 sq. ft. of commercial space is estimated to be $2.66 based on an estimated 3,097,000 sq. ft. of commercial area in the C-3-0 District and the 1980-1981 allocation of $8,250,000 in Sales Tax Revenue (Gruen Gruen + Associates, p. 111, City and County of San Francisco Appropriations Ordinance (1980-1981) and Arthur Andersen and Co., Table 11-4).
2. The taxable expenditures per office worker within the central business district were calculated by using the SPUR figure of $715 (Impact of intensive High-rise Development in San Francisco, 1975) updated to 1982 by adding 51% (the average weekly earning increase of finance, insurance, real estate and service workers between 1974 and 1981-82 as indicated in the U.S. Bureau of Labor Statistics, Monthly Labor Review, Washington, January 1981). Sales tax revenues generated by the project: number of employees (2,100) x taxable sales/employee ($1,080) x 1.25% tax rate = $28,350.
3. $24,000 (sales tax generated by project retail business) + $28,400 (sales tax created by employee purchases) = $52,400.

Table 6. NET TAX REVENUES GENERATED TO THE GENERAL FUND

| Tax Category | Tax Paid By Existing Site Development | Estimated Tax Paid By Proposed Project | Net Tax Increase |
|---|---|---|---|
| Property Tax | $27,000 | $390,000 | $360,000 |
| Business Tax | 145,000[1] | 798,000-806,000 | 650,000-665,000 |
| Utility Tax | 8,900[2] | 100,000 | 91,000 |
| Sales Tax | 5,000[3] | 52,400 | 47,400 |
| BART Tax | 2,400 | 15,000 | 13,000 |
| Parking Tax | 35,800 | 114,000 | 78,000 |
| TOTAL REVENUES | $224,000 | $1,400,000 | $1,200,000[4] |

1. Based on the (a) 370 office employees with an average salary of $24,600/yr. and a 1.5% tax on total payroll: 370 x $24,600 x 1.5% = $136,530 and (b) tax on gross receipts, estimated at $8,100/yr. on the basis of 80% leased space and average rents in the area: 108,000 leasable sq. ft. x $25 rent/sq. ft./yr. x 0.3% tax = $8,100/yr. (1982 dollars)
2. 0.144 million sq. ft. x $62,000 per million sq. ft./yr. = $8,900/yr. based on Gruen Gruen + Associates, Fiscal Impacts of New Downtown High-Rises on the City and County of San Francisco, March 1981, p. 120. This estimate was based on estimated citywide revenue from the utility users' tax in the 1980-1981 Appropriations Ordinance adjusted to isolate the revenues from the C-3-0 area.
3. The taxable expenditures per office worker within the central business district were calculated by using the SPUR figure of $715 (from the Impact of Intensive High-Rise Development in San Francisco, 1975) updated to a 1982 estimated expenditure rate of $1,080/employee/yr. by adding 51% (the average weekly earning increase of finance, insurance, real estate and service workers between 1974 and 1981-2, as indicated in the U.S. Bureau of Labor Statistics, Monthly Labor Review, January 1981). Sales tax revenues to the City and County of San Francisco General Fund generated by existing development at a 1.25% tax rate are: 370 employees x $1,080 taxable sales/employee x 1.25% tax rate = $5,000. In addition, sales tax revenues of about $2,400 are distributed to the local transportation fund administered by the Metropolitan Transportation Commission among BART, Muni, AC Transit, Golden Gate Transit and SamTrans.
4. Columns may not add due to rounding.

Source: Bendix Environmental Research, Inc.

Total Revenues. The potential net increase in revenues to San Francisco due to the project would be about $1,200,000; this figure is subject to a number of variables that could affect the estimates:

- Property tax distribution could change in future years
- Payroll tax could vary according to the salaries of the employees in the proposed project
- Rents may change, affecting the gross business tax
- Costs for utilities, particularly telephone, are variable with type of use and utility rates are subject to change.

Costs. San Francisco costs for providing municipal services to the proposed project are difficult to quantify. Existing services near the site could accommodate the proposed project without additional facilities and/or personnel.[1] Although costs of servicing the site would increase due to increases in square footage and number of employees, cost per unit of service would not increase.[2]

Cost increases due to increased patronage from the project would be expected for Muni, SamTrans, BART and Golden Gate Transit. The 1982-83 estimated per-paid-passenger fare deficit for BART is $1.09.[3] Based on 50,000 peak hour rides/yr., the estimated annual BART deficit attributable to the project would be about $55,000. Subtracting net revenues expected from the project for BART, $12,000 (not including the portion of the $.005

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1. One Anthony Court (Lincoln Plaza) Final Initial Study, 81.297E, p. 16, see Appendix I, p. A-1.
2. For a summary and comparative analysis of assumptions of recent studies on Fiscal impacts of downtown development, see 71 Stevenson Final EIR, 91.493E, Appendix C, Table C-3, p. 156, certified June 16, 1983, hereby incorporated by reference, available for public review at the Dept. of City Planning, Office of Environmental Review, 450 McAllister St., SF.
3. Based on conversation with Ward Belding, Senior Economist, BART, September 16, 1983.

sales tax administered to the local transportation fund), the net fare deficit of BART would be about $43,000.

The City's general fund provides a subsidy to the Municipal Railway's operating budget. The subsidy covers the difference between Muni's costs and the revenues that Muni receives from fares and federal and state governments. This subsidy represents the cost of Muni to the City. The net marginal cost (or increase in the deficit for Muni operations) per peak hour ride was $0.39 in 1982.[1] The proposed project would generate about 330 net new peak hour trips which could generate a cost to Muni of about $33,000. During the two-hour peak period the project would add about 510 trips to Muni loadings at a cost of $52,000. The extent to which this cost would be met by an increase in the general fund allocation to Muni is not known. State and federal funds to Muni are decreasing and the City is reviewing other options for increased revenues.[2]

If the historic proportion of general fund revenues (10% in 1982-83) continues to be allocated to Muni, it is assumed that the proposed project revenues would exceed municipal costs directly attributable to the project at the time of project occupancy. Due to limitations imposed by Proposition 13 on property tax increases, revenues are not expected to increase as rapidly as inflationary increases in City costs. If all current sources of revenue associated with the proposed project remained constant (i.e. fees and rates do not change and no new assessments are levied), costs would eventually exceed revenues.[3]

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1. Bruce Bernhard, San Francisco Public Utilities Commission, telephone conversation, January 18, 1982.
   330 peak hr. trips/day x $0.39/peak hr. trip x 260 work days/year = $33,600/yr.
2. Memo from Dean Macris to the City Planning Commission, August 5, 1982.
3. 101 Montgomery Street Final EIR, 80.26, certified May 7, 1981, pp. 316-18, hereby incorporated by reference, available for public review at the Department of City Planning Office of Environmental Review, 450 McAllister St., San Francisco, CA 94102.

The San Francisco Board of Supervisors, on April 27, 1981, approved an ordinance (224-81) to assess new downtown commercial development to support Muni. This fee requires developers to contribute to a Muni fund $5.00 per gross sq. ft. of construction. Based on this one time fee, the project would yield $3,525,000. This transit fee is in litigation in San Francisco Superior Court.

## E. TRANSPORTATION[1]

### Construction

During construction of the proposed project, a 24-month period, material and service deliveries would be made via Anthony and Jessie Sts., minimizing the congestion on Mission St. A potential congestion point on Mission St. would be the turning lane into Anthony St. Project construction would not require blocking any lane or transit stop on Mission St., as walkways would be at the existing sidewalk location rather than in the curb lane. Construction equipment and traffic would cause congestion on Anthony and Jessie Sts. at certain times (Jessie and Anthony Sts. are not through streets). Construction workers would increase traffic in the project vicinity and increase demand on existing parking and transit facilities. Project sponsor would request the contractor to provide shuttle transportation and/or satelite parking for construction workers, which would be expected to reduce these impacts below perceptible levels.

Covered pedestrian walkways on Mission, Anthony and Jessie Sts. would be constructed to maintain safe pedestrian passage. During removal of the transformer vault, pedestrians on Mission St. would be diverted to the other side of the street to prevent any possible exposure to PCBs.

If construction of 49 and 71 Stevenson were to overlap with the construction of the proposed project, congestion on Anthony and Jessie Sts. would increase. Jessie could be blocked more frequently due to the increased amount of construction equipment in the area.

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[1] All transportation impact projections are based on the Guidelines for Environmental Review - Transportation Impacts, Department of City Planning, September 1983, hereinafter called the September 1983 Transportation Guidelines, and hereby incorporated into this document by reference. Further discussion of transportation analysis methods can be found in Appendix VI, pp. A-60 to A-70.

Table 7. TRIP GENERATION*

| | Existing | Proposed | Net New |
|---|---|---|---|
| Office-Work | 720 | 4,000 | 3,300 |
| Office-Nonwork | 1,100 | 6,100 | 5,000 |
| Office-Total | 1,800 (100%) | 10,100 (88%) | 8,300 (86%) |
| Retail | 0 (0%) | 1,400 (12%) | 1,400 (14%) |
| Grand Total | 1,800 | 11,500 | 9,700 |

*Projections of daily person trip-ends (PTE) based upon the September 1983 Transportation Guidelines. Columns do not add due to rounding.
Source: Bendix Environmental Research, Inc.

## Trip Generation

Based on use, the project would generate about 11,500 person-trips per day, 10,100 from office and 1,400 from retail space (see Table 7, above). These figures include trips made by auto, public transit, and other modes. Travel generated by existing uses represents about 1,800 of these trips, therefore net new trip generation would be about 9,700 person-trips daily.[1]

Peak travel expected to be generated by the project is shown in Table 8, p. 107. Projected trips by mode which would be generated by the project and by cumulative development are given in Table 9, p. 108. About 1,000 new trips would occur during the PM peak hour due to the project. Note that the project would contribute 2.3% of the cumulative increase in trips due to projects under construction, approved, or under formal review as of June 1983. The modal assignments have been made assuming existing travel patterns

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[1] All travel discussion will analyze only net new travel to and from the site, unless specifically noted.

Table 8. PEAK TRIP GENERATION*

| | Peak Period | | Person Trip-Ends (PTE) |
|---|---|---|---|
| Office | AM/PM Peak 15 Min. | (8:30-8:45)<br>(4:35-4:50) | 290 |
| | AM/PM Peak Hour | (8:00-9:00)<br>(4:15-5:15) | 870 |
| | AM/PM Peak Period | (7:00-9:00)<br>(4:00-6:00) | 1,400 |
| | Mid-Day Peak 15 Min. | (12:50-1:05) | 360 |
| | Mid-Day Peak Hour | (12:00-1:00) | 1,100 |
| | Mid-Day Peak Period | (11:30-1:30) | 2,200 |
| Retail | PM Peak Hour | (4:15-5:15) | 140 |
| | PM Peak Period | (4:00-6:00) | 220 |
| Total-Retail/Office | PM Peak Hour | (4:15-5:15) | 1,000 |
| | PM Peak Period | (4:00-6:00) | 1,600 |

*Net new trip generation based upon the September 1983 Transportation Guidelines. Pedestrian trips, as well as as trips made by auto and public transit are included.

Source: Bendix Environmental Research, Inc.

and do not attempt to predict any modal shift (see Appendix VI, p. A-60, for further discussion). As the Bay Bridge operates at capacity during peak hours, the number of persons crossing the bridge in single-occupant automobiles might be expected to change in the future. Past experience indicates that much of the City wide peak-hour increase might be expected to be accommodated by a shift from single-occupant automobile to ridesharing or public transit.

In this and other San Francisco EIRs a land-use type of approach has been used to estimate employment and the resultant transportation impacts

Table 9. PROJECTED PM PEAK PERSON-TRIPS BY TRAVEL MODE

| Travel Mode | Lincoln Plaza Project | | Cumulative Total* | | Project as % of Total | |
|---|---|---|---|---|---|---|
| | 1-hr | 2-hr | 1-hr | 2-hr | 1-hr | 2-hr |
| Drive Alone | 150 | 230 | 8,100 | 13,000 | 1.9 | 1.8 |
| Car/Vanpool | 94 | 150 | 4,200 | 6,600 | 2.2 | 2.3 |
| Muni | 330 | 510 | 13,000 | 21,000 | 2.5 | 2.4 |
| BART | 190 | 300 | 7,300 | 12,000 | 2.6 | 2.5 |
| AC Trans. | 49 | 76 | 2,000 | 3,200 | 2.5 | 2.4 |
| SamTrans | 11 | 17 | 450 | 730 | 2.4 | 2.3 |
| SPRR | 13 | 19 | 540 | 860 | 2.4 | 2.2 |
| GGT Bus | 27 | 42 | 1,100 | 1,800 | 2.5 | 2.3 |
| Ferry | 10 | 15 | 370 | 600 | 2.7 | 2.5 |
| Walk Only | 110 | 170 | 6,600 | 11,000 | 1.7 | 1.5 |
| Other | 16 | 23 | 630 | 1,000 | 2.5 | 2.3 |
| TOTALS (rounded) | 1,000 | 1,600 | 44,000 | 70,000 | 2.3 | 2.3 |

* Includes projects under construction or recently completed, approved projects and projects under formal review as of June 1, 1983, including Lincoln Plaza trips. Individual projects are listed in Appendix V, p. A-53.

Source: Bendix Environmental Research, Inc.

of both the proposed project and cumulative development. An alternative type of approach is to forecast travel demand based upon regional projections of future employment (employment trend approach). Appendix VI, pp. A-60 to A-70 contains a discussion of the differences between the two approaches.

## Transit

The transit impact analysis for the project (based on the September 1983 Transportation Guidelines) analyzed cumulative and project ridership based on existing capacity. This analysis assumes no change in travel behavior and no expansion in the transit system. The results of this analysis are not dependent on increased City, State or Federal funding. If existing

City, State or Federal funding were to decrease, operating conditions on the Muni and other carriers would be expected to deteriorate. Conversely, if City, State or Federal funding were to increase over existing levels, operating conditions would be expected to improve. Travel behavior would be expected to adapt over time to public transit operating conditions, traffic conditions and parking availability. City policy is to encourage travel by public transit rather than auto, particularly in the downtown area.

The estimated ridership, for the 18 million gross sq. ft. of net new cumulative office development and the 0.6 million gross sq. ft. of net new retail development, and the project, and load factors based upon capacity proposed to occur in the current five-year plan cycle (1982-1987) for each transit agency are shown in Table 10, p. 110.

Muni. The existing loads plus the project trips and cumulative trips on the 44 Muni lines serving downtown (see Table 11, p. 112) are expected to result in about 13,000 outbound p.m. peak hour trips daily when cumulative development is fully occupied. The project would generate approximately 330 p.m. peak-hour Muni trips, and 510 peak period Muni trips (see Appendix VI, p. A-68 for photographs of peak Muni loading). Project-generated riders during the p.m. peak hour would be about 2.5% of the demand from the 18 million gross sq. ft. of net new cumulative office development and the 0.6 million gross sq. ft. of net new retail development (Table 9, p. 108).

Project-generated peak-hour Muni trips would be approximately equivalent to five buses filled to maximum load or to six buses filled to comfort load.

Table 10. EVENING PEAK HOUR OUTBOUND TRANSIT RIDERSHIP*

| Agency | Ridership | | | Load Factor (existing capacity)** | | | Load Factor (proposed capacity)*** | |
|---|---|---|---|---|---|---|---|---|
| | Existing (1982 Counts) | Existing + Cumulative w/o project | Existing + Cumulative w/Project | Existing | Existing + Cumulative w/o project | Existing + Cumulative w/project | Existing + Cumulative w/o Project | Existing + Cumulative w/Project |
| Muni**** | 27,000 | 39,000 | 40,000 | 0.80 | 1.16 | 1.17 | 0.98 | 0.99 |
| BART | | | | | | | | |
| Transbay | 14,000 | 19,000 | 19,000 | 0.90 | 1.29 | 1.29 | 0.77 | 0.77 |
| Westbay | 6,000 | 8,400 | 8,500 | 0.61 | 0.85 | 0.86 | 0.51 | 0.52 |
| AC Transit | 10,000 | 11,000 | 12,000 | 0.72 | 0.86 | 0.87 | 0.86 | 0.87 |
| SamTrans | 1,700 | 2,100 | 2,200 | 0.78 | 0.98 | 1.02 | 0.34 | 0.35 |
| SPRR | 5,200 | 5,700 | 5,700 | 0.78 | 0.86 | 0.86 | 0.70 | 0.70 |
| Golden Gate | | | | | | | | |
| bus | 4,500 | 5,600 | 5,600 | 0.66 | 0.82 | 0.82 | 0.66 | 0.66 |
| ferry | 800 | 1,200 | 1,200 | 0.39 | 0.57 | 0.57 | 0.34 | 0.34 |

* All numbers are presented to two (2) significant figures.

** Load factor based upon existing (recommended) maximum capacity. A load factor of 1.00 is equivalent to 100% of recommended seated and standing capacity being used. Recommended maximum capacity is less than crush loadings that occur.

*** Proposed capacity as specified by each agency's Five-Year Plan.

**** 1982/1983 Muni ridership approximation based on the compilation of Muni ridership by the Department of City Planning in the Transportation Guidelines

Source: 580 California Street FEIR, 81.705E, certified January 6, 1983, p. 77, and Bendix Environmental Research, Inc.

The addition of the ridership from the projected 18 million sq. ft. of net new cumulative office development and the 0.6 million gross sq. ft. of net new cumulative retail development would cause demand on most of the affected Muni, BART, Southern Pacific and SamTrans lines to exceed existing capacity. Planned capacity expansion would accomodate the projected increases for all carriers, as indicated in the sections on individual agencies below. As the cumulative demand increases, the length of time of peak loadings would increase, spreading peak-of-peak conditions over time. Additional runs by the vehicle fleet would cause increases in operating and maintenance costs as well as some addition to farebox revenues. New vehicles and vehicle storage facilities would also be needed to serve cumulative demand.

Assuming that existing funding continues and proposed expansion occurs, the future load factors on the transit agencies would be as shown in Table 10, p. 110. Muni is proposing to increase systemwide capacity 19%. Assuming the increase to be provided uniformly, average loading, including ridership from the cumulative demand, would be over capacity. If Muni did not apply the increase uniformly but rather were to provide a greater increase in capacity on the lines serving the downtown and a lower increase in capacity on other lines, the load factors would be lower than those shown for Muni in Table 10, p. 110.

BART. BART is projecting a peak hour capacity of 16,500 seats transbay (eastbound) and 11,000 seats westbay (westbound). Recommended maximum capacity would be 24,750 and 16,500 respectively.[1] Average loadings, including ridership from the projected 18 million gross sq. ft. of net new

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[1] 71 Stevenson St. Final EIR, 81.493E, certified June 16, 1983, p. 92.

Table 11. SUMMARY OF MUNI ROUTES SERVING DOWNTOWN
(for peak hours: 4-6 p.m.)

| Route Designation | Number of Riders | Seated Capacity | Route |
|---|---|---|---|
| 1 - California | 2,362 | 1,920 | Links Downtown with Western Addition + Richmond District |
| 1X - California Express | 812 | 528 | Links Downtown with Richmond District, weekday peak only |
| 2 - Clement | 963 | 624 | Links Downtown with Western Addition and Richmond |
| 3 - Jackson | 761 | 576 | Links Downtown with Pacific Heights and Western Addition |
| 4 - Sutter | 796 | 576 | Links Downtown with Western Addition, peak hour only |
| 5 - Fulton | 1,426 | 1,200 | Links Downtown and Transbay Terminal with Richmond Dist. |
| 6 - Parnassus | 1,003 | 864 | Links Downtown and Transbay Terminal with Sunset |
| 7 - Haight | 738 | 624 | Links Downtown with Haight-Ashbury, weekdays only |
| 8 - Market | 989 | 1,056 | Links Downtown with Castro/ Market area |
| 9 - San Bruno | 748 | 720 | Links Downtown with Mission and Bernal Heights |
| 12 - Folsom | 654 | 672 | Links Downtown with Mission |
| 13 - Guerrero | 253 | 432 | Links Downtown with Noe Valley, weekday peaks only |
| 14, 14L - Mission | 860 | 816 | Links Downtown with Outer Mission and Daly City |
| 14X - Mission Express | 600 | 480 | Links Downtown with Outer Mission and Daly City |

Table 11. SUMMARY OF MUNI ROUTES SERVING DOWNTOWN, cont.
(for peak hours: 4-6 p.m.)

| Route Designation | Riders | Capacity | Route |
|---|---|---|---|
| 15 - Third | 1,161 | 1,104 | Links Fisherman's Wharf, Downtown, Bayview and City College |
| 16X - Noriega Express | 585 | 768 | Links Downtown with Outer Sunset |
| 17X - Park Merced Express | 195 | 240 | Freeway express service, Park Merced to Downtown |
| 19 - Polk | 698 | 768 | Links Downtown with Potrero Hill and Hunters Point |
| 21 - Hayes | 1,001 | 816 | Links Downtown with Richmond District |
| 26 - Valencia | 356 | 576 | Links Downtown with Park Merced |
| 27 - Bryant | 331 | 384 | Links Downtown with Mission and upper Noe Valley |
| 30 - Stockton | 4,906 | 3,552 | Links Downtown with S.P. depot, North Beach and Marina |
| 30X - Freeway Express | 942 | 864 | Freeway express, from Marina to downtown to McLaren Park |
| 31 - Balboa | 919 | 672 | Links Downtown with Richmond District |
| 31X - Balboa Express | 817 | 624 | Express Service links Downtown with Richmond |
| 32 - Embarcadero | 660 | 864 | Links Downtown with North Beach, Fisherman's Warf |
| 38 - Geary | 2,893 | 2,352 | Links Downtown with Western Addition and Richmond |
| 38L, 38AX, 38BX Geary Express | 696 | 432 | Express and limited stop, links Downtown and Richmond |
| 41 - Union | 1,203 | 1,248 | Links Downtown with Cow Hollow |

Table 11. SUMMARY OF MUNI ROUTES SERVING DOWNTOWN, cont.
(for peak hours: 4-6 p.m.)

| Route Designation | Riders | Capacity | Route |
|---|---|---|---|
| 42 - Downtown Loop | 576 | 768 | Links Downtown with S.P. Depot, Civic Center and Fisherman's Wharf |
| 45 - Greenwich | 1,019 | 864 | Links Downtown with Presidio/Cow Hollow |
| 47 - Van Ness | 1,336 | 1,200 | Links Mission District with the Aquatic Park |
| 49 - Van Ness/ Mission | new line | 528 | Links Aquatic park with Ingleside |
| 58 - Rutland | new line | 288 | Links Downtown with North Beach |
| 61 - California | new line | 384 | Links Downtown with Van Ness Corridor |
| 66 - Quintara | 389 | 336 | Links Sunset with Haight, Inner Sunset and Parkside |
| 71 - Haight-Noriega | 768 | 480 | Links Downtown with Haight and Sunset Districts, weekday peaks only |
| 72X - Sunset Express | 470 | 432 | Links Downtown with Haight, Sunset and Stonestown, weekday peaks only |
| 80X - Gateway Express | 293 | 288 | Links Golden Gateway Center with Downtown and S.P. Depot |
| J,K,L,M and N MUNI Metro | 13,237 | 7,888 | Light-rail service linking Downtown with upper Noe, Sunset, Parkside, Ingleside |
| TOTAL NUMBER OF RIDERS (rounded) | 43,200 | 33,500 | All lines within 2,000 feet of project site |

Source: MUNI Scheduling Office, Seth Green, telephone conversations November 16, 1982 and September 14 and 22, 1983, and Bendix Environmental Research, Inc.

cumulative office development and the 0.6 million gross sq. ft. of net new retail development, would not be over capacity if the anticipated five-year plan capacity were realized.

AC Transit. AC Transit is currently operating at 72% of capacity during the p.m. peak hour (see Table 10, p. 110) . Capacity increases are determined on a year by year basis.[1] Cumulative development (18 million sq. ft. of office space) is projected to increase ridership to 86% of present capacity.

SamTrans. SamTrans operates nine routes serving the downtown area during the p.m. peak hour, carrying about 2,800 passengers at 100% of seated capacity,[2] 78% of recommended seated and standing capacity (see Table 10, p. 110). Cumulative downtown development (18 million sq. ft. of office space) is projected to increase ridership to current capacity. SamTrans will give priority in bus assignment to its commuter service to meet demand as the need arises, and SamTrans proposes to have a capacity of between 4,800 and 5,000 seats per hour on its San Francisco routes. Recommended maximum capacity would be 6,250 riders. Average future loadings on SamTrans would be just under seated capacity when the anticipated capacity becomes available (see Table 10, p. 110).

Southern Pacific/CalTrans. Southern Pacific/Cal Trans (SP) p.m. peak hour trains are currently operating at 78% of capacity (see Table 10, p. 110). A 22% capacity expansion is planned,[3] and the demand generated by

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1. Don Larson, AC Transit Planning and Research Department, telephone conversation, October 4, 1983.
2. SamTrans, Jim Dehart, Data Analyst,telephone conversation, November 15 1982.
3. Eric Shotmeyer, author of CalTrans 5-yr Plan, telephone conversation September 15, 1983.

cumulative development is expected to reach 71% of future capacity.

Golden Gate Transit. Golden Gate Transit is proposing to increase peak period (6-10 a.m.) motor coach capacity by 25% over existing levels and to increase ferry service by addition of another Larkspur Ferry (an increase of about 70% over existing service).[1] Average future loadings (including the cumulative demand) on Golden Gate Transit buses and ferries would not exceed future capacity (see Table 10, p. 110).

Carpools and Vanpools. City policy encourages multiple-occupancy vehicles. Currently, carpools and vanpools to and from downtown San Francisco are provided through RIDES for Bay Area Commuters (non-profit) and Golden Gate Transit. Projections of project and cumulative trip generation indicate that about 62% of person-trips made by auto would be made in single-occupant autos and 38% would be made in multiple-occupant vehicles (car and vanpools) As total trips increase in the future, it is expected that a greater proportion would be made in multiple-occupant vehicles.

Jitney Service. Privately owned jitneys serve Mission St. and might attract some project-generated trips.

### Pedestrians

Existing pedestrian volumes on Mission, Second and Jessie Sts. are currently classified as unimpeded during the evening peak hour, 4:30-5:30, (pedestrian flow definitions and capacities are given in Appendix VI, p. A-69) Pedestrian flow on Ecker St. is classified as impeded during the peak hour. The proposed Lincoln Plaza project would generate about 1,000 new pedestrian trips on the surrounding sidewalks during the p.m. peak hour. Pedestrian

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[1] 580 California St. Final EIR, 81.705E, certified January 6, 1983, p. 76a.

Table 12. EXISTING AND PREDICTED P.M. PEAK HOUR PEDESTRIAN FLOWS

| Street | | Existing | | Predicted* | |
|---|---|---|---|---|---|
| | | P/M/F** | Regimen** | P/M/F | Regimen |
| Second St. - between Market and Mission | EAST Side | 1.4 | Unimpeded | 1.8 | Unimpeded |
| | WEST Side | 1.5 | Unimpeded | 1.7 | Unimpeded |
| Mission St. - between 1st and 2nd | NORTH Side | 1.0 | Unimpeded | 2.6 | Impeded |
| | SOUTH Side | 1.3 | Unimpeded | 2.3 | Impeded |
| Ecker St. at Jessie St. | | 2.2 | Impeded | 3.0 | Impeded |

NOTE: Pedestrian Counts performed 4:30-5:30 p.m., Friday, December 10, 1982 and Wednesday, August 16, 1983 by Bendix Environmental Research, Inc.

*Includes project and 71 Stevenson St. project, does not include 49 Stevenson St. project.

**Pedestrians per minute per foot of effective sidewalk width. Pedestrian flow rates and classifications discussed further in Appendix VI, p. A-69.

Source: Urban Space for Pedestrians, Boris Pushkarev and Jeffery Zupan, MIT Press, Cambridge, MA, 1975 and Bendix Environmental Research, Inc.

traffic would increase approximately 60-75% on Mission St., 25% on Second St., 50% on Jessie and 30% on Ecker St. Mission, Jessie and Ecker Sts. would be classified as impeded during the peak p.m. hour. The amount of pedestrian traffic on Jessie and Ecker Sts. would depend on final design of curb cuts, pedestrian entrances, plaza design and sidewalk widths. It would be expected that Jessie St. and the proposed 71 Stevenson pedestrian pathway would be used as a pathway to the Market St. Muni lines (Fig. 22, p. 51). Table 12, p. 117, compares existing pedestrian flows with predicted pedestrian volume on Mission and Second Sts. and at the Jessie/Ecker intersection, with the completion of Lincoln Plaza.

The cumulative effect of new development within 2,000 ft. of the project site would be to increase pedestrian traffic. Pedestrian flows would be more impeded than at present; pedestrians would retain some freedom to select a walking speed and avoid conflicts. Jessie and Ecker St. flows would roughly double but would remain classified as impeded. The capacity of sidewalks in the project area would not be exceeded.

The project would increase pedestrian traffic at the First/Mission intersection from approximately 1.5 pedestrians/minute (unimpeded) to 2.8 pedestrians/minute (impeded), due to people walking to the Transbay terminal and the Mission St. Muni lines.

Vehicular

The proposed project would generate about 190 vehicle trips during the evening peak hour.[1] Cumulative downtown development would generate about 10,500 p.m. peak-hour vehicle trips to and from the downtown area, assuming existing modal splits, vehicle occupancies and traffic patterns. The proposed project would account for about 1.8 percent of the projected p.m. peak hour automobile trips resulting from all new downtown development. Note that recent downtown traffic counts are essentially the same as 1959/1965 counts,[2] indicating that increased development does not necessarily result in increased traffic or parking demand.

Analysis of traffic flow was made for peak traffic flow at signalized intersections in the project area. Turning movements were counted during the p.m. peak hour at four intersections near the project site: Mission/

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1. The project would generate about 64 vehicle trips during the p.m. peak 15 minutes and 300 vehicles trips during the p.m. peak period.
2. J.H.K. Associates for Department of Public Works, 1983: Downtown Cordon Count, 1983.

Table 13. INTERSECTION ANALYSIS AT P.M. PEAK HOUR*

| Intersection | Level of Service** | | |
|---|---|---|---|
| | Existing | Existing + Cumulative | Existing+ Cumulative+ Project |
| 1st and Mission | C | D | D |
| 2nd and Mission | B | C | C |
| 1st and Howard | A/B | C | C |
| 2nd and Howard | A | B | B |

*Analysis of intersection count data indicates that counts are subject to up to 15% variation, therefore levels of service should be considered approximate.

**For definitions of Level of Service see Appendix VI, Table, p. A-67.

Note: The 18 million gross sq. ft. of net new cumulative office development (Department of City Planning, June 1, 1983) may not actually worsen level of service; recent traffic counts indicate that development in the last 18-24 years has not increased traffic the Downtown. (J.H.K. Associates for DPW, 1983: Downtown Cordon Count, 1983) Thus, future traffic conditions may be better than the worst case projected above.

Source: EIP Corporation and Bendix Environmental Research, Inc.

First, Mission/Second, Howard/First and Howard/Second.[1] Service levels of the intersections have been calculated as shown in Table 13, p. 119.[2,3] Traffic counts made in 1981 and 1983[1] indicate that traffic levels have not changed in the area. While service levels appear to indicate stable traffic flow conditions, the freeway network serving the downtown area is the main constraint on vehicle access to and from the project area. Interstate 80 operates at jammed conditions (Service Level E-F) during the evening peak

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1. Field observation by EIP Corporation, January-March, 1981, and Bendix Environmental Research, Inc., June 1983.
2. See Appendix VI, p. A-60, for method used.
3. See Appendix VI, p. A-67, for Level of Service Definitions.

hour[1], and close to that for much of the 3-7 p.m. commute period. Thus, the overall congestion on the freeway can affect the flow on specific freeway links or individual ramps. In addition, field observations[2] indicate that freeway traffic sometimes backs up through the Mission/First intersection during peak portions of the peak hour. During this peak of the peak, back-ups occur and vehicle queues reduce this intersection from Service Level C to Service Level E-F for periods of a few minutes.

## Parking

The project would cause the removal of the existing 180-200 space garage. The proposed project would include one underground floor of parking providing approximately 95 spaces, a net decrease of 85-105 spaces. The parking rates would be designed to encourage a mix of short and long term parking. This would be contrary to City Master Plan policy which calls for no new parking facilities and conversion of existing long-term spaces to short-term parking in the C-3-O district (Automobile Control District). Net new short-term parking demand generated by the project would be about 28 spaces and the net new long term parking demand would be about 300 spaces.[3] A deficit of 433 spaces would exist.[4] The project parking demand has been based upon existing travel patterns. Commuters and visitors travelling to the proposed building by automobile would compete for spaces in public garages in the area. Figure 40, p. 121, indicates off-street

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1. Leonard Newman, Chief, Highway Operations Branch, Caltrans, telephone conversation, August 7, 1982.
2. Field observation by EIP Corporation, January-March, 1981, and Bendix Environmental Research, Inc., June 1983.
3. Long term parking demand is assumed to be equal to AM/PM peak period auto trips.
4. 328 spaces net new demand plus 200 spaces existing demand equals 528 spaces total demand, less 95 spaces provided, leaves a 433 space deficit.

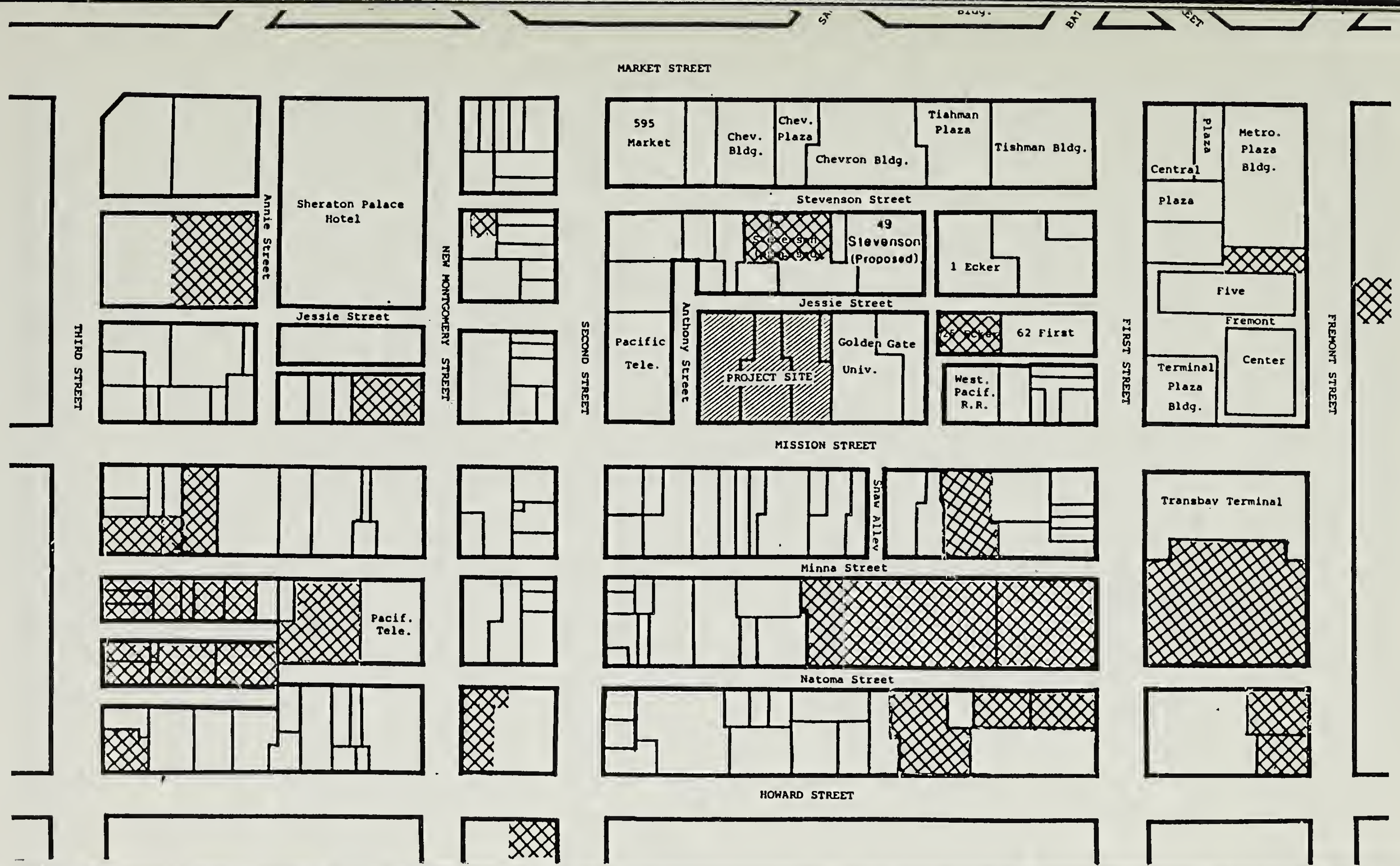

Figure 40

Off-Street Commercial Parking In the Vicinity of Lincoln Plaza

Source: Bendix Environmental Research, Inc.

▦ Off-Street Parking Facilities

N

Not to scale

parking available to the public in the project area.

Long-term parking demand for the 18 million gross sq. ft. of net new cumulative development and the 0.6 million gross sq. ft. of net new retail development in the greater downtown area has been calculated to be about 14,000 spaces. The project would represent 2.1% of total demand. As long-term parking demand is typically work (employee) related and is more likely to be influenced by cost rather than by location, long-term parking demand has been assumed to be distributed over the greater downtown and South of Market areas rather than concentrated near the proposed project location.

A December 1982 survey by the Department of City Planning shows that there are about 40,600 off-street parking spaces in the C-3 districts and an additional 6,500 spaces in the area bounded by The Embarcadero, Folsom, Eighth and Bryant Sts.[1] Based on average occupancy (91%), about 4,100 spaces are available on a daily basis. The theoretical cumulative demand for the downtown area could create a net deficit of about 10,000 spaces. Cumulative parking demand has been based upon existing travel patterns and is not dependent upon the availablity of parking spaces or the ability of freeway and bridge systems to carry the additional demand. Freeway and bridge capacity into downtown is essentially fixed at existing levels; major construction would be required to add new capacity; this would be contrary to City policy. Traffic volumes have been stable for several years despite increased development, so "worst case" projections are unlikely to occur.

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[1] Department of City Planning, C-3 Districts Parking Update, December 16, 1982.

The 1982 survey indicated that inside the study area about 6,000 parking spaces have been added since 1967 and approximately 1,400 are proposed to be added (exclusive of 4,845 parking spaces proposed for the Yerba Buena Gardens).

The project would be within the area designated by the Transportation Element of the Master Plan as an Automobile Control Area. The Element (Downtown Transportation Plan, Policies 2,3,6 and 8, pp. 39-41) discourages any addition of parking facilities within this area. The proposed Downtown Plan (p. 126) also discourages new long-term parking facilities in and around downtown. The proposed project would provide approximately 95 spaces, and thus would not be in accordance with Master Plan or Downtown Plan policy; the Planning Code does not require parking in the C-3-0 district.

A Department of City Planning study has identified 13 sites, in the South of Market area as possible locations for new long-term parking structures. The closest sites to the proposed project are approximately two blocks south on both sides of First St., north of the Folsom St. intersection.[1]

Imbalances in long-term parking demand and potential supply, given projected cumulative development and demand, would be expected to encourage the use of carpools and vanpools, the creation of satellite (intercept) parking facilities in outlying areas of San Francisco and suburban areas requiring transit service to the downtown area, and increased use of transit directly by commuters from both San Francisco and suburban centers. All transit options would add to the demands on the regional and local transit systems, particularly Muni.

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1. Department of City Planning, Peripheral Parking Opportunities in the South of Market, December 16, 1982, p. 4.

## Parking and Loading Access

The entrance to the proposed underground parking (one level, 95 spaces) would be via a curb cut on Anthony St. A preferential parking section would be provided for carpools, vanpools, bicycles and the handicapped, in relation to project generated demand and Code requirements for the latter two categories. Evening use of the attended, well-lighted parking facilities would be available to students attending Golden Gate University next door.

Service vehicle access would be provided by four loading docks on the Jessie St. side of the project. Due to the close proximity of the proposed plaza to the Anthony St. entrance to underground parking, vehicle-pedestrian conflicts would occur although they would be reduced by the warning bell or other device to be used. The loading docks on Jessie could interfere with pedestrians using Jessie St. as a shortcut to Market St., particularly during the midday peak period (11:30-1:30) for pedestrians, which overlaps with the 10:00-2:00 peak period for trucks. Autos going to and from the parking garage and service vehicles could generate some vehicle-transit conflicts as they would enter diamond lanes on Mission St. to turn into and out of Anthony St. For locations of curb cuts and loading docks see Figure 6, p. 17.

The four loading docks planned for the proposed project would comply with the San Francisco Planning Code.[1] The project would not comply with the City Planning Commission Resolution No. 9286 requirement for six spaces, or the proposed Downtown Plan. The project would generate an estimated peak demand for 7.7 loading spaces and an estimated hourly demand for 6.4

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[1] San Francisco Planning Code, § 152, Table 5, p. 61.

loading spaces.[1] The four loading docks which would be provided would not meet this projected demand. The site currently has four off-street loading spaces (of a smaller size than those proposed) serving an estimated 1.0 space hourly demand and 2.3 space peak demand. Traffic congestion on Jessie St. could occur if delivery trucks fail to enter occupied loading docks and wait or unload in the street.

## F. AIR QUALITY

Construction activity would generate some air pollutants in the project vicinity. Construction equipment would release exhaust that could affect people in neighboring buildings during construction hours. Site preparation and construction activities would cause dust and other particulate matter to become suspended in the air. Violations of the State 24-hour Total Suspended Particulates (TSP) standard might occur in the immediate vicinity of the project.

Upon completion, the project would affect air quality in two ways: emissions would be generated by project-related traffic and by combustion of natural gas for space and water heating. Transportation sources would account for more than 95% of project-related emissions.

Emissions from combustion of natural gas for project water and space heating would be vented out the top of the building. The exhaust gases would be diluted to concentrations below the ambient air quality standards before reaching ground level. Natural gas is a relatively clean burning fuel producing no visible exhaust plume.

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1. Loading space demand figures are based on Wilbur Smith and Associates, Center City Pedestrian Circulation and Goods Movement Study, prepared for the San Francisco Transportation Policy Group, September 1980.

### Table 14. EXISTING AND PROJECTED CURBSIDE CARBON MONOXIDE CONCENTRATIONS

(in parts per million, ppm)

| | 1982 Existing[1] | | 1988 Cumulative Without Project[1] | | 1988 Cumulative plus project[1] | |
|---|---|---|---|---|---|---|
| | 1 Hour* | 8 Hour** | 1 Hour | 8 Hour | 1 Hour | 8 Hour |
| First/Mission | 14 | 8 | 12 | 8 | 13 | 8 |
| Second/Mission | 14 | 8 | 12 | 8 | 14 | 8 |
| First/Howard | 18 | 10 | 15 | 9 | 15 | 9 |
| Second/Howard | 16 | 9 | 13 | 8 | 15 | 8 |
| Background[2] | 7.0 | 5.3 | 7.4 | 5.7 | 7.4 | 5.7 |

*State 1 Hour CO Standard = 20 ppm
**Federal 8 Hour CO Standard = 9 ppm
Underlined values are at the limit of the Federal 8 hour CO Standard

1. Calculations were made using the procedures recommended in California Air Resources Board, Research Division, Air Quality Modeling Section, Estimating Carbon Monoxide Concentrations for Hot Spots Analysis, Sacramento, CA May 1980.
2. Background concentrations are based upon half the highest measured values in San Francisco in 1980-81 and adjusted to account for regional pollution controls in accordance with the estimates contained in the 1982 Bay Area Air Quality Plan. The 1988 background values include an extra 35% to account for cumulative growth in traffic in the downtown area.

Source: Environmental Impact Planning Corp. and Bendix Environmental Research, Inc.

Traffic generated by the proposed project would be a source of atmospheric pollution. On the local scale, carbon monoxide (CO) is the predominant pollutant emitted by motor vehicles. Projected CO concentrations for 1988 for the four intersections most heavily impacted by the project were calculated both with and without the proposed project. These results are shown in Table 14, p. above. The calculations assume completion of other cumulative planned and proposed projects in the downtown area. The results represent the exposure a person would have at the worst curbside location during worst-case meteorological conditions. The highest concentration would occur during the p.m. peak hour, most probably on a winter evening (inversions which trap air pollutants near the ground occur most frequently in winter).[1] Project-generated traffic would contribute no more than 2 ppm to the one-hour CO concentrations, would not contribute measurably to the eight-hour CO concentrations and would cause no violation of standards. Table 14, p. 126, shows that air quality at First/Howard violated the 8-hour 8-hour CO air quality standard in 1982.

No violations of State or Federal CO air quality standards would occur as a result of the project or projected cumulative downtown development. The First and Howard intersection would be at the Federal 8-hour standard of 9 ppm in 1988 with or without the proposed project. Since CO concentrations drop off rapidly with distance from curbside, occupants of nearby buildings would be exposed to lower concentrations of CO than reported in Table 14, p. 126. The 1988 cumulative projected air quality, with and without the project, would approach but not exceed CO standards.

While State and Federal emission controls are expected to result in lower vehicular emission rates in 1988 than in 1982, the predicted additional traffic volumes in 1988 would offset a portion of the expected gains from the "cleaner" cars. These air quality projections assume no relaxation of the Clean Air Act prior to 1988 and do not consider the possibility of stricter air quality standards as a means of improving air quality.

The regional impact of the project would be due to the increase in vehicle miles traveled (VMT) associated with the project. Based on the

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[1] Association of Bay Area Governments, 1982 Bay Area Air Quality Plan, Berkeley, CA, 1982.

Table 15. PROJECTED REGIONAL AIR EMISSIONS

(tons/day)

| Pollutant | 1988 Project[1] Emissions | 1988 Regional[2] Total Emissions | Percent Increase Due To Project |
|---|---|---|---|
| Carbon Monoxide | 0.73 | 2,300 | 0.03 |
| Hydrocarbons | 0.06 | 530 | 0.001 |
| Nitrogen Oxide | 0.05 | 560 | 0.009 |
| Particulates | 0.07 | 590 | 0.01 |
| Sulfur Oxides | 0.007 | 210 | 0.003 |

1. Based upon a daily average for the project of 26,000 vehicle miles traveled.
2. Bay Area Air Quality Management District, 1979 Source Inventory, San Francisco, 1980, and the Association of Bay Area Governments, 1982 Bay Area Air Quality Plan, Berkeley, CA, 1982.

Source: Environmental Impact Planning Corp. and Bendix Environmental Research, Inc.

predicted number of project-genenerated trips and their associated length, the daily regional increase in VMT due to the project is estimated at 26,000. Using composite emission factors supplied by the California Air Resources Board and assuming an average trip speed of 20 mph, total regional emissions from the project traffic have been estimated in Table 15, p. 128.

It is not expected that the resulting increase in downwind ozone levels would be of sufficient magnitude to be measured or modelled accurately. In combination with emissions from other projects, Lincoln Plaza could contribute to measurable increases in ozone concentrations at downwind locations and possible violations of the ozone air quality standard at locations which are already close to exceeding this standard.

The project would not directly conflict with the pollutant control strategies recommended by the 1982 Bay Area Air Quality Plan, and by itself would have no measurable impact on city-wide or regional concentrations, or on the frequency of standard violations. However, it could incrementally impede the objectives of the Plan by generating additional pollutant emissions in San Francisco and elsewhere in the air basin.

## G. NOISE[1]

### Construction Noise

In addition to the Lincoln Plaza project, two other projects are proposed on the same block. These are the 49 Stevenson project located at the intersection of Ecker and Jessie Sts. and the 71 Stevenson project on Jessie St. opposite from Lincoln Plaza (see Fig. 16, p. 31). The Ecker Square project (25 Ecker), located diagonally from the proposed 49 Stevenson project, is completed, so it would not contribute to cumulative noise impacts.

Project demolition and construction time is estimated at 24 months. Pavement breakers, jackhammers, front end loaders and trucks would be the primary noise sources. During the majority of the demolition time, the jackhammers would be used inside the existing buildings. Jackhammers emit levels of approximately 88 dBA at a distance of 50 ft. in the open air. When operating inside a building shell, the noise levels measured at a distance of 50 ft. outside the building are approximately 75 dBA. Front end loaders and trucks emit levels of 80-85 dBA at a distance of 50 ft. and pavement breakers emit levels of about 85 dBA at a distance of 50 ft. Maximum noise levels inside existing office buildings in the vicinity of the site would reach 65 dBA during this two-month phase if their windows were open. If windows were closed, noise levels would reach about 60 dBA. With windows open, noise would be expected to be annoying and distracting in office spaces, would interfere with the use of conference rooms, but would not interfere with the use of telephones. With the windows closed, no interference would be expected although some annoyance would be anticipated. Maximum noise levels inside the Golden Gate University during the demolition phase would reach 55 dBA and would not be expected to interfere with the use of classrooms. Table A-8, Appendix p. A-71, gives generalized effects of dBA ranges on office workers.

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[1] Construction noise impacts based on analysis done by Charles M. Salter Associates, San Francisco, under contract to Bendix Environmental Research, Inc.

During the one month of excavation, scrapers, loaders and trucks would be used. These pieces of equipment emit levels of 80-85 dBA at a distance of 50 feet. During this activity, noise levels inside existing offices facing the site with open windows would reach 65 dBA, typical of existing maximum noise levels generated by traffic on Mission St. Noise levels inside Golden Gate University would not exceed 49 dBA, again typical of existing maximum levels due to traffic on Mission St.

In the event that foundation piles would be required (excavation for underground levels may preclude the necessity for piles), impact pile drivers would be used to install the piles. Impact pile drivers are the noisest pieces of equipment that would be used during construction. Pile drivers emit levels of about 105 dBA at a distance of 50 ft. as well as producing vibration. Pile driving could be expected to take place within 35 ft. of Golden Gate University and within 50 ft. of existing office buildings. Noise levels could reach 90 dBA in the Pacific Telephone building and 85 dBA in offices opposite the site on Mission St. Noise levels would reach 65 dBA in the Golden Gate University classrooms adjacent to the site. During pile driving activity, there would be times when it would be impossible to continue work in some of the existing offices directly facing the site; for example, some offices and conference rooms in the Pacific Telephone and Chevron I buildings would be unusable during this time, even with windows closed. Use of the classrooms adjacent to the site in Golden Gate University would be marginal; classes could probably take place but with some difficulty.

During building erection, the noisiest activity would be the use of impact wrenches, used to fasten metal decking to the steel frame of the building. Other activities would range in noise emission from 60-80 dBA at a distance of 50 ft. Impact wrenches emit about 95 dBA at a distance of 50 ft. During the time that these wrenches are used (sporadically over two months), noise levels would be expected to range from 65-75 dBA inside existing offices with windows open. Noise levels would not be expected to exceed 60 dBA inside nearest classrooms in the Golden Gate University. During use of impact wrenches, interference with use of offices in the vicinity of the site could be expected. Although audible and potentially annoying, it is not anticipated that the use of impact wrenches would interfere with the use of Golden Gate University. Noise levels during the remainder of building construction would not exceed existing noise levels generated by traffic in the area.

### Cumulative Noise

Three projects surround Golden Gate University. The greatest noise impact has already been experienced by Golden Gate University during the construction of Ecker Square because the University facade facing Ecker Square is almost entirely glass. Lincoln Plaza (proposed), 71 Stevenson (approved) and 49 Stevenson St. (proposed) projects would impact the Golden Gate University less than the Ecker Square project because the University facade facing Lincoln Plaza has no windows and the facade facing Jessie St. has few windows. Construction noise from the 71 and 49 Stevenson projects would impact Golden Gate University more than Lincoln Plaza would because of the University's window openings facing Jessie St.

The maximum noise levels generated would be no greater if all three projects were taking place simultaneously than for each individual project because it is unlikely that the pile driving phase of the projects would overlap. If the pile driving phase of the projects did overlap it is unlikely that the drivers would be working in unison. Noise generation would be more continuous but exposure time would be limited if all three projects were built simultanoulsy.

As indicated above, pile driving noise levels are higher than noise levels of other construction activity and would be expected to interfere with use of the buildings in the area even though the cumulative noise would not be higher than the noise from the pile driving due to a single project.

## H. HAZARDS

### Construction

The proposed project would require excavation to accommodate one level of underground parking. There are two sub-sidewalk transformer vaults near the excavation area (554-584 Mission Street). According to PG&E, both of these vaults contain an insulating fluid which includes toxic polychlorinated biphenyls (PCBs).[1,2]

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[1] PG&E, G. Tyson, Commercial and Industrial Section, letter communication, November 19, 1982.

[2] PCBs = chemicals shown to cause cancer in laboratory animals at low concentrations.

One vault, at 562 Mission St., is partially located underneath the existing building, the other vault, at 576 Mission St., extends up to the property line of the parking lot. Both vaults could be subject to damage and leakage of PCBs during demolition and excavation. To avoid the health hazards associated with exposure to PCBs, both vaults would have to be removed by PG&E prior to construction of the proposed project. The contractor would be informed of the exact location of the PCB-containing vaults, as well as other underground facilities, which would be marked through the Underground Service Alert (USA) procedure.

## I. EXCAVATION

Excavation for the parking levels would go below the water table and lower than the foundation of the adjacent Golden Gate University foundation. This excavation, pile driving and any dewatering which might be associated with construction could cause settlement of nearby buildings, particularly the University. See Mitigation Measures Chapter V, p. 151, for mitigation of this potential impact.

## J. ENERGY

The proposed project is subject to Title 24 (California Administrative Code) conservation standards.[1] The current regulations govern the design of the building envelope; the heating, ventilating and air conditioning systems; and hot water heating, electrical distribution and lighting. The requirements of the standards must be satisfied in one of 3 ways.

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[1] The applicable regulations were adopted by the California Energy Resources Conservation and Development Commission, June 30, 1977, and went into effect January 1, 1978. A new version of these standards is currently in preparation and is expected to be adopted in 1983.

- The energy budget method, which requires that the energy consumption of the proposed building be calculated using a state approved energy analysis computer program and then compared to an allowable limit.
- The component performance standards method, which requires the incorporation of a set of specific design features.
- The use of nondepletable energy resources (energy from nondepletable sources, such as solar or wind energy) for 40% of total thermal requirement or 20% of total energy requirements.

At this stage in the design of the proposed project, insufficient information is available upon which to base energy analysis calculations. In lieu of that, estimates of the probable energy consumption of the proposed project have been made based upon comparisons with other projects in San Francisco[1] and assuming compliance with Title 24 by the energy budget method. The resulting estimates are shown in Table 16, p. 135.

Buildings similar to the proposed project, for which load curves have been developed, show peak electrical consumption on hot August or September afternoons due to demand for cooling, which coincides with PG & E's seasonal and daily systemwide peaks. Demand curves would be expected to similar to those in the 123 Mission Street Final EIR, 81.183E, certified June 30, 1983, shown as Figure 41, p. 136.

Natural gas demand of other office projects has been predicted to peak during cold January mornings and would not coincide with PG&E's systemwide peak during January between the hours of 4:30 pm and 8:30 pm. The load curves would appear similar to those shown in the FEIR for the 123 Mission St. Building, 81.183E, certified June 30, 1983, (Fig. 41, p. 136).

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[1] The applicable regulations were adopted by the California Energy Resources Conservation and Development Commission, June 30, 1977, and went into effect January 1, 1978. A new version of these standards is currrently in prepartation and is expected to be adopted in 1983.

Table 16. Estimates of Energy Consumption[1]

| | |
|---|---|
| Connected kilowatt load | 3,800 kW |
| Annual electrical consumption (based upon 74% of total BTU)[1,2,3] | 5.7 million kilowatt hour (kWh) per year |
| Electrical consumption per month | 0.5 million KW |
| Electrical consumption per month per sq. ft. | 0.8 KW |
| Natural gas consumption per day[4] | 5.5 million BTU (550 Therms) |
| Natural gas consumption per day per sq. ft. | 96 BTU's |
| Total annual energy consumption (electricity and natural gas) | 78 billion BTU, equivalent to 14,000 barrels of oil |

1. It is probable that the actual structure would use less energy than shown here as these figures are based on the maximum allowable limit.
2. Includes space conditioning, service water heating and lighting. Energy used by appliances such as typewriters, computers, coffee makers, etc. is not included because of the large variability based on the uses of specific occupants.
3. The assumed split between electricity and natural gas use is based upon predicted consumption rates of other San Francisco projects. However, this "split" is sensitive to the design used; actual consumption rates may differ considerably.
4. BTU = British Thermal Unit, a unit of heat energy required to raise the temperature of one pound of water one degree Farenheit. 100,000 BTU = 1 Therm

Source: Bendix Environmental Research, Inc.

The projected electrical consumption for cumulative downtown development represented 0.4% of PG&E's systemwide annual demand in 1981.[1] In 1981, PG&E had a surplus generating capacity of 4,500 megawatts (mW) and in 1985 expects to have a surplus of 4,200 mW.[1] The energy demand represented by cumulative development in Downtown San Francisco, including the proposed

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[1] PG&E, Summary of Loads and Resources (Form R-1A) and Future Generating Facilities and Changes to Existing Facilities (Form R-6) April 1982, as cited in the 580 California Street Office Building Final EIR.

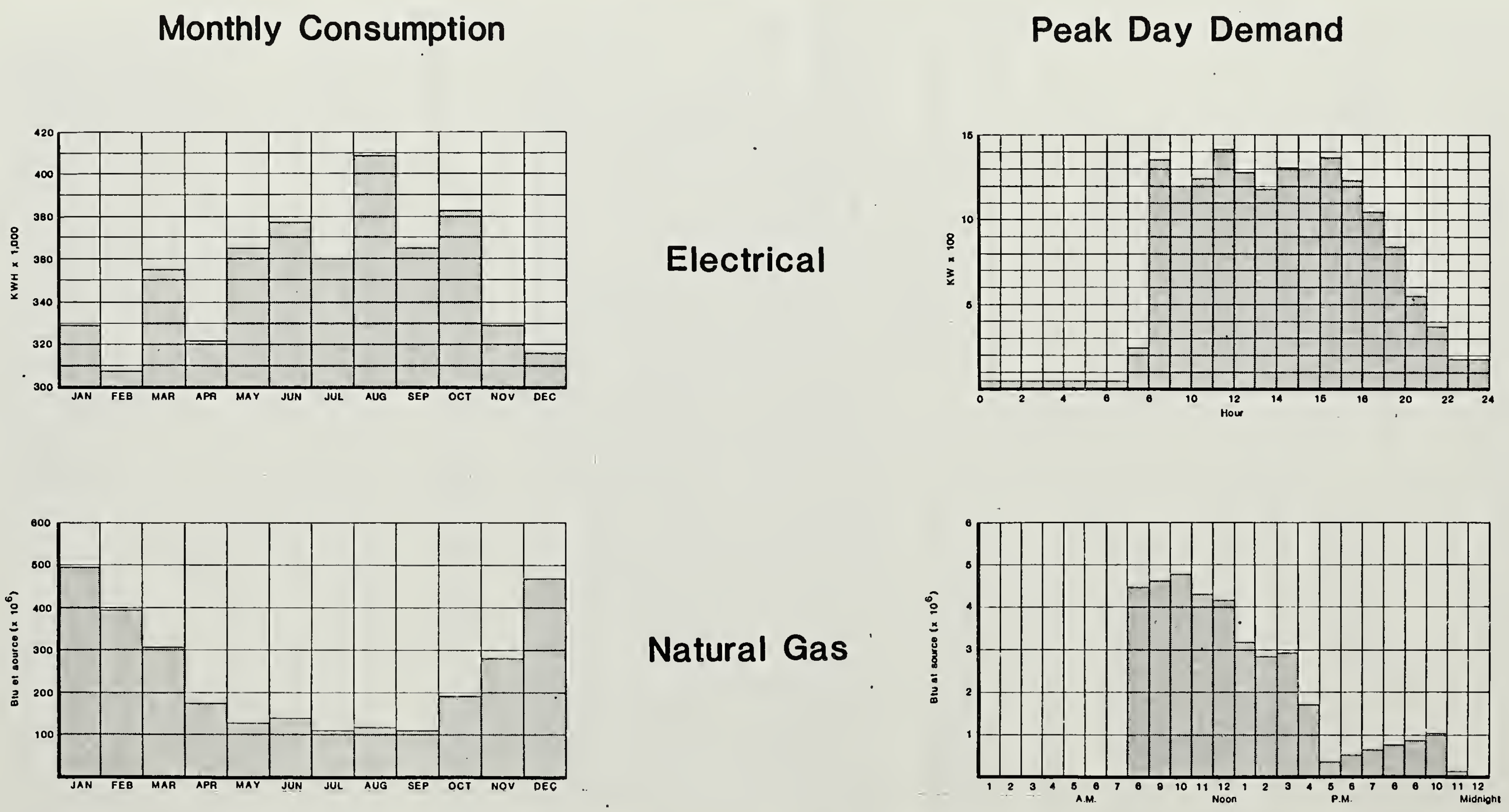

**Figure 41** Estimated Electrical Load and Natural Gas Demand Curves

**Lincoln Plaza**

SOURCE: Environmental Science Associates and Skidmore, Owings and Merrill project, could be accommodated by existing and planned PG&E facilities.[1] PG&E's reserve margin, the excess capacity over demand that serves as a safety margin, was estimated at about 14% for 1982 and projected by PG&E to increase to about 25% in 1983, when PG&E believes the Diablo Canyon nuclear power plant will come on line. The reserve margin is then expected to decrease slowly during the late 1980's to about 18% in 1990. PG&E would have adequate reserve margin to serve new development should the Diablo Canyon plant not come on line as anticipated. However, reserve margins would be lower.[2]

## K. CUMULATIVE COMMUNITY SERVICES

### Police

In 1980-81 about 23% more arrests were made in San Francisco than in 1979-80. Existing, approved and proposed Downtown office construction falls within the boundaries of Police Districts A and B. In addition to office use, these Districts also include the North Beach and Tenderloin (District A) and the Mission and China Basin areas (District B). See Appendix VIII, p. A-72, for District boundaries.

District A reported the highest number of crimes in several categories, such as forgery, worthless checks, "other assaults," receiving stolen property and "other mischief," as well as the highest total number of crimes. While District B reported a 45% lower crime rate than District A, it is still ranked as one of the high crime Districts. It is difficult to ascertain the type and number of crimes related to the various land uses found within each District.

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1. Robert Fohlen, PG&E, Industrial Power Engineer, telephone conversation, February 1983.
2. PG&E, forecast of the Demand for Electricity within the PG&E Company Service Area, 1982-2002, 1982, as cited the FEIR for New Montgomery Place, EE80.355, certified May 5, 1983, pp. 112-113.

Cumulative downtown development would eventually increase demand for police services because of the resulting additional population, property and traffic. Typically, new downtown office development requires less police service than older office buildings because new projects incorporate security systems and personnel. The proposed project would have its own internal security system.

The San Francisco Police Department indicates that increased construction could result in an increase in buglarly and petty theft due to the increase in office population and property value.[1] Additional street activity could help to decrease incidence of sidewalk-related crime. The Police Department indicates that it would not require additional personnel to service the project.

## Fire Protection[2]

New high-rise structures in San Francisco have been required to conform with the Life Safety provisions of the San Francisco Building Code since 1975. These buildings must be provided with automatic fire sprinklers throughout, as well as with a fire alarm system, emergency power, special elevator controls and ventilation provision for smoke removal. Although the probability of a fire occuring in a new high-rise building is the same as that for any pre-1975 building of similar size and occupany, the chance of the fire spreading is reduced by the automatic operation of the fire sprinkler(s). In the majority of fires involving fully sprinklered buildings, a single sprinker is all it takes to control the fire.

Approximately 450 existing high-rise buildings in San Francisco have been affected by retroactive state high-rise regulations which have resulted in upgrading of their fire safety for the occupants as well as for the firefighters who must enter the buildings under emergency conditions. In recent years, the San Francisco Fire Department has experienced reduction in personnel due to budget cutbacks. Daily staffing has decreased by nearly 100 persons in the last 6 years, from 409 in 1975 to 315 in 1981. There are fewer companies and on the average, fewer fire fighters per company.

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[1] Victor Macia, Captain, Central Station, San Francisco Police Department, telephone conversation, June 30, 1982.

[2] Confirmed by Emmet D. Condon, Deputy Chief (now Chief of Department), San Francisco Fire Department, June 1982.

Although it would appear that this reduction in staffing would result in more fires and an increase in greater alarms (Fire Department terminology for second, third, etc. alarm fires as a group); Fire Department statistical records indicate otherwise (see Appendix IX, p. A-73).

While there is a greater number of emergency calls today than there were 10 years ago (39,199 in 1980 compared to 30,727 in 1970) there were 26% fewer building fires in the same period. In addition, greater alarms have been reduced by 35% in the same time period.

The Fire Department attributes this decrease in building fires and greater alarms to increased fire prevention inspection by fire suppression units, improved abatement procedures for code violations of the Fire and Building Departments, the continuing replacement of older, more hazardous structures with modern construction and greater focus on public safety educational programs.

Fire Department statistics by Fire District within the City are only available for 1977 to 1980 which is too short a period of time within which to reliably discern trends. There is no indication in this data of any difference in trend in the downtown area compared to the rest of the City.

Fire protection requirements tend to decrease whenever structures predating modern codes are replaced by new construction, the effect being proportional to the strictness of standards applied.

New buildings above 75 ft. in height, for instance, must comply with §1807 of the San Francisco Building Code. These buildings must be provided with automatic fire sprinklers throughout, as well as with a fire alarm system, emergency power and special elevator controls. Although the probability of a fire occurring in a new high-rise building is the same for any pre-1975 building of similar size and occupancy, the chance of fire spreading is reduced by the automatic operation of the fire sprinklers and the the type of building materials used.[1] New construction complying with the least restrictive current code requirements presents less fire protection problems than many existing structures. No additional Fire Department personnel or equipment are anticipated to be needed as a result of the proposed project.

## L. GROWTH INDUCEMENT

The project would add about 558,000 gross sq. ft. of office space, about 9,000 sq. ft. of retail space, about 95 parking spaces, and would remove about 140,000 sq. ft. of office space and about 200 parking spaces from the south of Market area for net gain of about 418,000 sq. ft. of office and a net loss of about 100 parking spaces. Employment at the site would increase by about 1,700. Occupants of the proposed project are unknown; they would include tenants who would relocate from elsewhere in the Bay Area or from

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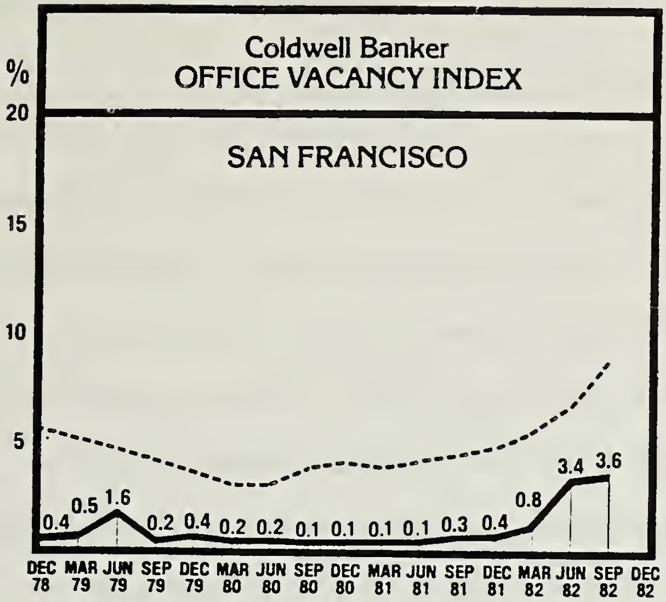
[1] New downtown office developments are Type 1 buildings. According to the San Francisco Building Code §1801, Type 1 buildings have structural elements made of reinforced concrete, reinforced grouted masonry, reinforced hollow concrete masonry or steel; and the exterior walls, roofs, floors, and some inner walls are of fire-resistive incombustible construction.



Office Vacancy Table

Table 17. S.F. Office Vacancy Rates Compared to National Vacancy Rates

Source: Coldwell Banker, September 30, 1982

within San Francisco and firms new to the Bay Area. The increase in employment at the project site, therefore, would not necessarily represent employment that is new to San Francisco. If the project were fully leased, and the availability of its space does not create permanent vacancies in other San Francisco office buildings, total direct employment in San Francisco would eventually increase by about 1,700 jobs due to the project.

Table 17, above, compares national office vacancy rates with San Francisco office vacancy rates. Even though recent reports indicate an increase in office space vacancies, San Francisco's office vacancy rate remains below the national average. San Francisco's demand for office space continues to follow the trend of growth in service sector and headquarters office activities and employment. The increase in downtown office space and employment would contribute to the continued growth of local and regional markets for housing goods and services.

It is expected that many new downtown workers would want to live in San Francisco. Employment growth however, would not correspond directly to increased demand for housing and community services; some of the positions would be filled by current residents of the Bay Area who already have housing or by those who could not afford housing in San Francisco.

Any increase in downtown employment would increase the demand for retail goods and restaurants. The proposed project would help to offset the increased demand by incorporating a net increase of 9,000 sq. ft. of retail space into the building plan.

Increases in employment downtown would also increase demand for business services, consequently, demand for existing service space would increase, possibly resulting in new development. No expansion of the municipal infrastructure not already under consideration would be required to accommodate new development and increased employment due to, or induced by, the project.

The proposed project would comply with the policy of the Downtown Plan to redirect "downtown office expansion south of Market Street."[1]

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1. San Francisco Department of City Planning, The Downtown Plan, August, 1983, p. 4.

# CHAPTER V. MITIGATION MEASURES

In the course of project planning, design and coordination, measures have been identified that would reduce or eliminate potential environmental impacts of the proposed project. Some of these measures have been or would be adopted by the project sponsors or their architects and contractors; some are still under consideration by the project sponsor, and some have been rejected. Those measures not included as part of the project could be required by the City Planning Commission as condition of project approval.

## ARCHITECTURAL RESOURCES

### Measures Proposed as Part of the Project

° Should evidence of historical or cultural artifacts of significance be uncovered at the site during construction, the sponsor would agree:

1) to require the project contractor to notify the Environmental Review Officer and the President of the Landmarks Preservation Advisory Board of the find;

2) to require the contractor to suspend construction in the area of the discovery for a maximum of four weeks to permit review of the find and, if appropriate, retrieval of artifacts;

3) select and employ a qualified archeologist, or historian, or such other professional, acceptable to the Environmental Review Officer to help the Office of Environmental Review determine the significance of the find, identify feasible measures, if any, to preserve or recover the artifacts, and submit a report to the above-named persons. Copies of the report would be forwarded to the State Historic Preservation Officer along with recom-

mended mitigation measures prepared by the project sponsor's consultant working in conjunction with the Office of Environmental Review and the Landmarks Preservation Advisory Board;

4) Project sponsor would provide security to protect the area and artifacts from unauthorized persons from the time of the discovery and would continue to provide such security until the matter was resolved or the four week recovery period had expired.

Measure Under Consideration

° The 57 Jessie Street, Thomas Davis-designed diner, one of two remaining in San Francisco (the other has been extensively remodelled), would be donated to any party that would remove it from the site. If there is no such party, the diner would be demolished at the time of demolition of other buildings on the site.

## URBAN DESIGN

### Measures Proposed as Part of the Project

° The design of the building base is intended to complement the lines of the Golden Gate University building in order to provide design compatibility and continuity.

° The 44 ft. tall building base is intended to provide an intermediate height visual transition from the plaza and building entry level to the tower, and to relate to surrounding buildings.

° The arched top of the building is intended to provide visual termination and contribute variety to the skyline.

° The cantilevered glass entryway, street-level retail uses and the landscaped plaza are intended to provide pedestrian scale and interest.

° Construction barriers would be painted or otherwise decorated, to provide visual interest during the 24-month construction period. The barriers would be included in construction contracts as the responsibility of the companies performing the excavation and construction of the building. The types of barriers to be used have not been determined yet. The decision would be made by the project sponsor after project approval.

° Non-reflective glass would be used to reduce glare.

° Project sponsor would provide plaza and pedestrian walkway design information to the sponsors of the 71 Stevenson and 49 Stevenson projects and would solicit coordination of the design of their plazas with Lincoln Plaza (Lincoln Plaza would be the largest of the three plazas).[1]

° A diversity of plants would be used to enhance the appearance of the site and provide year-round landscaping.

Other Mitigation Measures

° Project sponsor would consider resurfacing of streets to integrate them into the proposed project plaza design.

## HOUSING

Other Mitigation Measures.

° If required, project sponsor would meet the guidelines of the office Housing Production Program (OHPP). The project would generate a demand for 370 housing units in San Francisco based on the OHPP Guidelines. The Planning Commission could require, as a condition of project approval that the sponsor meet this demand off site or by other means in accordance with the OHPP.

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[1] Project sponsor has no responsibility for implementation of integrated design plans by other property owners.

# V. MITIGATION MEASURES

## TRANSPORTATION

Measures Proposed as Part of the Project.

° The general construction contract would provide that whenever possible no construction traffic would enter or leave the site between 7 and 9 a.m. or 4 and 6 p.m., to minimize rush hour traffic conflicts, especially on Mission St., a transit street.

° To mitigate traffic obstruction due to construction deliveries, all construction material deliveries and debris-removal would be behind construction barriers, queing would be on Anthony and Jessie Sts. and would not impede traffic flow on Mission Street.

° Should project construction overlap in time with 49 and/or 71 Stevenson, project-related street excavation would be coordinated to minimize cumulative traffic and pedestrian impacts.

° To speed up deliveries, a building directory would be placed in a prominent location in the loading area.

° Cargo stacking areas would be provided in the loading area.

° Parking access from Anthony St. and service and off-street loading from Jessie St. would minimize project-related traffic congestion on Mission St. Commuters arriving during morning rush hour could be accommodated faster by the garage with the parking access on Anthony St. because of greater queuing space.

° The sponsor would provide racks for bicycle and motorcycle parking at a secure location in the parking area in an amount relative to the demand generated by the project for commuters and short-term visitors if the demand for such facilities is greater than required by the Code. A bell and lighted sign would be installed to alert pedestrians to vehicles exiting the garage.

° To mitigate traffic congestion by the project, a transportation broker in the building management office would encourage transit use and would coordinate employee car pool and van pool systems in cooperation with RIDES for Bay Area Commuters by providing a central clearinghouse for car pool and van pool information. A tenant would be sought to sell BART, Muni and Golden Gate Transit passes. Tenants would be encouraged to implement a flextime system for employees, to reduce peak-period transportation system congestion.

° Within a year of full occupancy of the project, the project sponsor would conduct a survey, in accordance with methodology approved by the Department of City Planning, to assess actual trip generation patterns of project occupants and actual pick-up and drop-off areas for car pools and van pools. The project sponsor would make this survey available to the Department. Alternatively, at the request of the Department, the sponsor would provide a fair and equitable in-lieu contribution toward an overall transportation survey for the downtown area to be conducted by the City.

Other Mitigation Measures.

° Project sponsor would participate in any future City-sponsored areawide study of parking conditions and future needs.

° If required as part of an overall plan developed by Muni, the project would be designed to affix eyebolts or similar fixtures to the building for the suspension of Muni overhead trolley wires or to provide alternative means of wire support acceptable to Muni.

° Project sponsor would consider providing two additional loading spaces.

# V. MITIGATION MEASURES

## AIR QUALITY

### Measures Proposed as Part of the Project.

° In order to reduce dust and potential spillage onto streets, contractors would be required to sprinkle truck loads of excavated materials being carried away from the site.

° During periods of high windspeed the site would be wetted down twice a day in order to reduce dispersion of dust from the site by 50%. If conditions are such that this would not provide adequate control, construction would be suspended.

° Air intake and exhaust vents would be separated by a minimum of 25 feet (40 feet where possible) and exhaust vents would be located downwind of intake vents, and directed in opposite directions, in order to minimize exhaust contamination of intake air.

° Indoor air quality would be protected by a variable air volume ventilation system that would provide a minimum of one to two air changes per hour in occupied spaces in order to prevent build-up in the air of substances released by building, furniture and decoration materials.

### Other Mitigation Measures.

° Sponsor would consider installation of filters in the air recycling system to remove particulates from the air stream. A decision would be made at the time of final mechanical design on the basis of effect on air flow in the system, increase in energy consumption, and cost. A decision to implement such a program would be made prior to decisions about interior materials.

# V. MITIGATION MEASURES

## NOISE

### Measures Proposed as Part of the Project.

° The project sponsor and project contractor would meet with the Bureau of Engineering to determine necessary and feasible measures to reduce noise during the period in which the pile driving would occur. Pile driving would be limited to hours resulting in the least disturbance to neighboring uses.

° If piles are needed, holes would be predrilled to reduce noise impacts.

### Other Mitigation Measures.

° If pile driving is necessary, the Project Sponsor would consider running an evening shift to reduce noise impacts on sensitive day time receptors.

° Noise "masks," such as fountains, to diminish vehicle noise from Mission St. would be considered for the plaza area.

## HAZARDS

### Measures Proposed as Part of Project.

° The exact location of underground vaults containing PCBs would be marked through the Underground Service Alert procedure. The vaults would be removed by PG&E. Disposal of PCB contaminated material would be at a site acceptable to the Environmental Protection Agency. New electrical transformers required for the project would not contain PCBs.

## ENERGY

### Measures Proposed as Part of Project.

° Individual room light switches, zone control, and other means would be used to reduce energy consumption.

° Devices would be installed in wash rooms to limit hot water temperatures to 110 °F.

° Green- or gray-tinted glass (non-reflective) would be used in windows to reduce air conditioning load.

° A representative of the project sponsor and the project engineeer would meet with the staff of the Energy Conservation Department of the San Francisco Public Utilities Commission to present and discuss energy conservation measures proposed as part of the project.

### Other Mitigation Measures.

° A computerized energy management system would be considered to control lights, fans, and other electrical equipment so as to take advantage of "time-of-day" metering and to shift electrical demand off-peak where possible. A decision would be made before initiation of construction on the basis of construction and operation cost analysis.

## GEOLOGY/SOILS

### Measures Proposed as Part of the Project.

° A geotechnical investigation would be conducted by a California licensed engineer to determine appropriate excavation techniques and potential effects on the foundations of neighboring buildings. Mitigation measures recommended by the engineer performing the study would be implemented for any excavation and construction on the site. Adjacent building structures would be underpinned as recommended by the geotechnical report and required by the City.

° During dewatering, when recommended by the soils engineer or by the City, a survey would be conducted to monitor any movement or settlement of surrounding buildings and adjacent streets. Survey points for monitoring any horizontal or vertical movement or other measures required by the City would be implemented to check for any potential construction-related movement of nearby buildings.

° Should dewatering be used during construction, it could damage the underpinnings of nearby architecturally and historically significant buildings. When the soil engineer makes the study indicated above, attention would be paid to the foundations of nearby architecturally and historically-designated buildings. The structural stability of existing nearby buildings would be estimated and the need for an inspection program would be evaluated. Any change in the stability or integrity of historic buildings would be reported to the project sponsor who would notify the Environmental Review Officer and the Landmarks Preservation Advisory Board together with recommendations for correcting the situation.

° Infiltration of groundwater into portions of the parking levels that would be built below the water table, and other groundwater effects, would be mitigated by design of the floor to resist hydrostatic uplift pressures, installation of a drainage system under the basement floor slab, watertight design and/or other design measures. Potential effects of a permanent change in water table level, which would be caused by some design measures, would be taken into consideration in selection of the design, to best resolve groundwater impacts on the building.

° Project sponsor's representatives would discuss and implement suitable engineering measures to establish mutually acceptable measures to maintain the integrity of the foundation of the Golden Gate University building which would take into account possible settlement of sand under the University's foundation due to pile driving vibration.

## WIND

### Measures Proposed as Part of Project.

° Excavation would be limited when wind speeds exceed 30 mph.

° Street furniture in Lincoln Plaza would tend to break up any movement of winds from Jessie St. into the plaza.

° Street trees on the project side of Mission St. would provide pedestrians some wind protection.

° A building with its narrow face toward the southwest (the project's narrow face would be toward the south) would intercept wind and have less effect on windspeed. This would require the building's long axis to be essentially along Mission St. If such a building came to the Mission St. sidewalk in order to define streetscape, the plaza would be on the north of the building and would always be shaded.

## SEWAGE AND WATER

### Measures Proposed as Part of the Project.

° Sediment basins and traps would be constructed by the contractor to minimize the amount of sediment and stormwater runoff pollutants from the site during construction.

° Groundwater pumped from the site during construction would be retained in a holding tank to allow for settling of suspended particles, before any discharge of the groundwater to the sewer.

° An automatic sprinkler system would be used in the plaza to ensure landscape watering during early morning hours or during the evening to minimize water loss by evaporation.

° The project would incorporate low-flow toilet fixtures to reduce water consumption and wastewater production.

SOLID WASTES

Measures Proposed as Part of the Project.

° The demolition contractor would be required to recycle, or offer for recycling, all possible materials.

° Solid wastes generated by the project would be compacted to reduce space required at the solid waste disposal site.

° Storage containers would be provided in the storage area for the collection and storage of recyclables such as metal, paper, glass, etc. during project operation.

EMERGENCY SERVICES AND SAFETY

Measures Proposed as Part of Project.

° A guard service and security systems would be employed in the project to prevent burglaries and to reduce the demand for police services.

° All exterior doors would be openable from the inside in case of emergency.

° Plaza lighting would be placed so as to avoid interference with the vision of motorists.

° An evacuation and emergency response plan would be developed by project sponsor or building management staff, in consultation with the Mayor's Office of Emergency Services, to insure coordination between the City's emergency planning activities and the project's plan and to provide for building occupants in the event of an emergency. The project plan would be reviewed by the Office of Emergency Services and implemented by building management insofar as feasible before issuance by the Department of Public Works of final building permits.

° Windows would be designed and installed so as to minimize the probability of their breaking during an earthquake, and to maximize the probability of glass falling inward, rather than outward, if broken.

## MISC. PUBLIC SERVICES

### Measures Proposed as Part of Project.

° PG&E would coordinate work schedules with other utilities requiring street excavation, so as to minimize disruption. This would be accomplished through the S.F. Committee for Utility Liason on Construction and Other Projects (CULCOP).

# CHAPTER VI. SIGNIFICANT ENVIRONMENTAL IMPACTS THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

This Chapter covers impacts that could not be eliminated. It does not include impacts described in Chapter II, Impacts, pp. 54-142, that could be reduced to a level of insignificance by measures described in Chapter V, Mitigation Measures, pp. 143-154, regardless of whether or not mitigation measures have already been included by project sponsor as part of the proposed project.

## CUMULATIVE OFFICE DEVELOPMENT

The project would provide about 95 parking spaces, resulting in a deficit of 433 spaces. This parking space shortfall would be consistent with the Transportation Element of the Comprehensive Plan, which discourages new long-term parking in the downtown area. However, a major parking deficit from cumulative development would create increased transit ridership, increased cruising traffic in the general area as people look for spaces, and increased inconvenience as they take more time searching for parking spaces and travel greater distances between their vehicles and their final destinations.

The project would be part of a trend of denser development in downtown San Francisco. Cumulative increases in the amount of office space would continue regional growth in service-sector and office headquarters activities and employment. The project would contribute to cumulative traffic increases downtown and cumulative increases in passenger loadings on BART, Muni and other transit agencies.

# CHAPTER VII. ALTERNATIVES

## ALTERNATIVE 1a. 21:1 OFFICE BUILDING

This Alternative would result in a taller building of 600 ft. (including mechanical penthouse), with approximately 863,000 sq. ft., or about 300,000 sq. ft. more than the proposed project (575,000). The additional FAR allowance (needed to exceed the 14:1 FAR limit) would be acquired from other adjacent lots built to less than allowable FAR. The project use would remain the same; predominantly office (850,000 sq. ft.), with 11,000 sq. ft. of retail on the ground floor and one level of underground parking (see Fig. 42, p. 157).

The architecture of the building under this alternative would retain the style of the proposed building. This alternative would retain design features relating to nearby buildings. The 14,500 sq. ft. plaza would be 2,760 sq. ft., or 16%, less than the proposed Downtown Plan recommended standard.

Impacts associated with this alternative would be qualitatively similar to those of the proposed project. Impacts related to office use would be quantitatively greater, approximately in proportion to the increased office area, or about 50% greater.

Urban design impacts would differ from the proposed project in that this alternative would result in a taller building, so visibility and shadow impacts would be greater. The tower would be more conspicuous than the proposed building because of the greater height. The building would not be visible from Yerba Buena Island because it would be screened by the 600-ft. Five Fremont Center building. The top of the Alternative would be

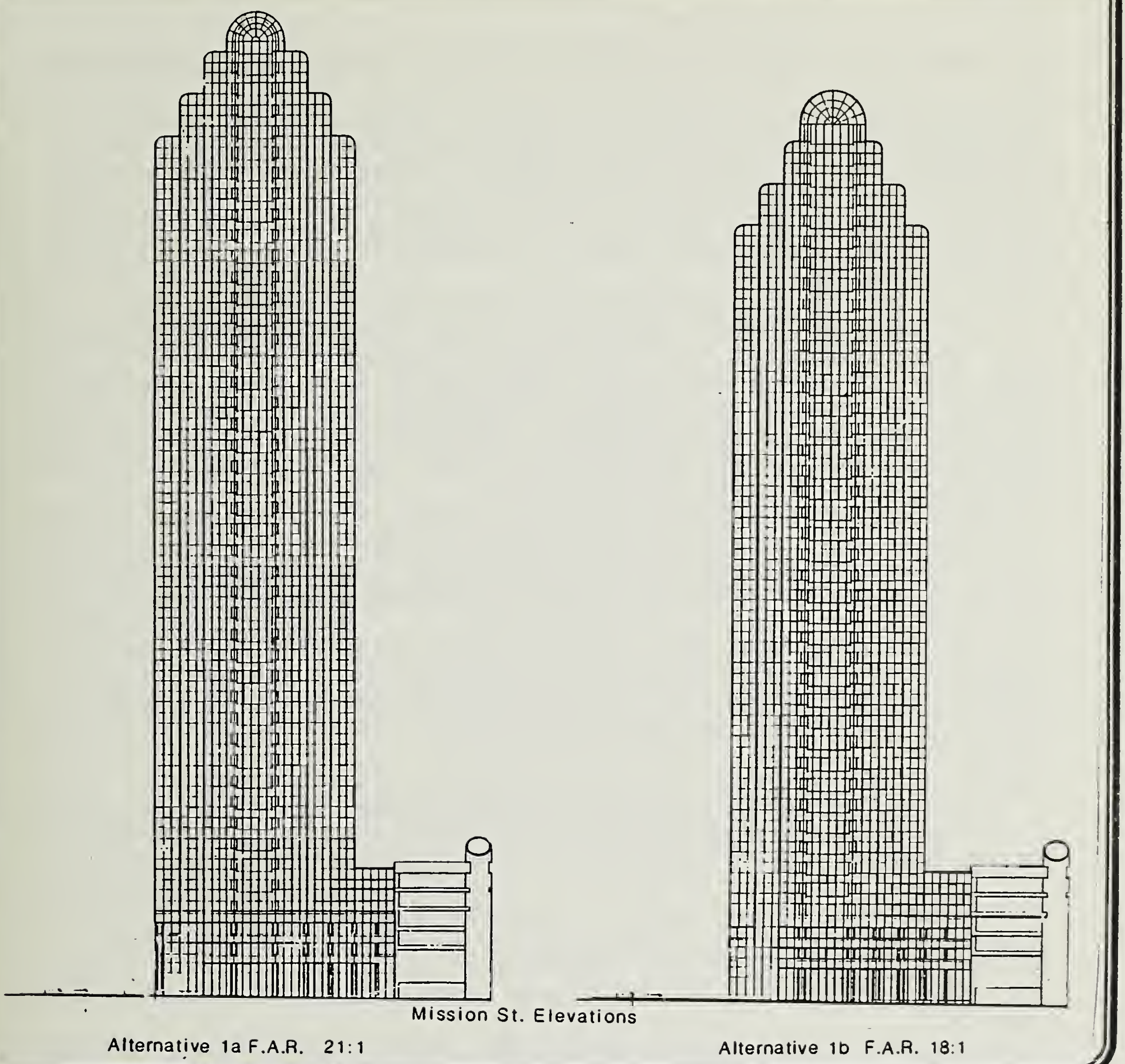

Figure 42

Alternative 1a F.A.R. 21:1

Alternative 1b F.A.R. 18:1

Lincoln Plaza

Mission Street Elevations

Scale = 1:100

Source: HOK Architects and Bendix Environmental Research, Inc.

more visible from southern approaches to the City than the proposed building. The shadow cast by the building would cover a larger area, but it would not shade open space during lunch time except in June, as would the proposed project. The alternative would comply with existing height and bulk limitations for the site.

The number of office, retail and service/janitorial persons employed under this alternative would total approximately 3,200, about 1,100 more employees than the proposed project. Secondary employment, due to the multiplier, would increase proportionally.

The additional workforce would place a greater demand on San Francisco and Bay Area housing supply than would the proposed project. According to the Office Housing Production Program formula, the housing demand for this alternative would be about 625 units, about 255 more than for the proposed project.

Tax revenues to the City from this alternative would be greater than for the proposed project because of the additional assessed value, greater utility use and greater number of tenants and employees in a larger building. See pp. 97-104 for discussion of applicable tax rates in San Francisco.

This alternative would result in greater cost to the City due to increased patronage on City-subsidized transit services. For example, there would be about 30% more peak hour trips on Muni than with the proposed project.

The project sponsor is considering this alternative. A decision would be made on the basis of the possibility of obtaining additional FAR by transfer of development rights from adjacent properties.

## ALTERNATIVE 1b. 18:1 FAR

This alternative would have a FAR of about 18:1. Development rights would be acquired from adjacent lots built to less than allowable FAR to allow the FAR for this alternative to exceed the current maximum FAR of 14:1. The alternative would contain approximately 715,000 sq. ft. of office, 9,000 sq. ft. of retail, and 40,000 sq. ft. of parking in one underground level. Planning Commission approval of transfer rights for office space above current Code limits would be needed. The alternative would be about 550 ft. tall, about 100 ft. taller than the proposed project. The alternative would conform to the Downtown Plan recommended height limit of 550 ft.

Design features relating the Alternative to neighboring buildings would be similar to those of the proposed project. The plaza area and design would be similar to the proposed project (see Fig. 42, p. 157). The 14,500 sq. ft. plaza would meet the Downtown Plan recommendation of 1 sq. ft. per 50 sq. ft. of building.

Impacts of this alternative would be similar to the proposed project and Alternative 1a, except that impacts of this alternative would be approximately 25% larger than for the proposed project and 25% smaller than for Alternative 1a.

The project sponsor is considering this alternative. A decision would be made after the evaluation of the possibility of obtaining additional FAR by transfer of development rights from another site(s).

## ALTERNATIVE 2. DOWNTOWN PLAN ALTERNATIVE[1]

The maximum FAR permitted under the proposed Downtown Plan would be 10:1. Alternative 2 would contain approximately 410,000 sq. ft. of office and 10,000 sq. ft. of retail space, for an FAR of 10:1 (ground floor retail space is not included in FAR calculations under the proposed Downtown Plan, DTP, p. 29). There would be no parking, in compliance with the proposed Downtown Plan, p. 130. This alternative would have about 155,000 fewer usable sq. ft. (40%) than the proposed project. The 28 story (372 ft. compared to proposed project at 469 ft.) building would have 25 floors of office space and one floor of retail space.

The design of the tower and base would be similar in style to the proposed project (see Fig. 43, p. 161). The tower would be scaled down to comply with the Height and Bulk guidelines in the proposed Downtown Plan, pp. 92-96. The building would be stepped-back on all four sides (rather than on the north and south facades as now proposed) from a base larger than that of the proposed building.

The smaller size of the building (85 ft. shorter than the proposed project) would make it less visible on the City skyline viewed from the south. The building would not be visible from either the Golden Gate or Bay Bridges and could be visible from I-280, U.S.101 and other southern approaches to San Francisco. Conformance with the Downtown Plan design guidelines would result in a building approximately the height of the adjacent 71 Stevenson project. When viewed from a distance this would cause a benching effect that is discouraged by the Downtown Plan. The 14,500 sq. ft. plaza proposed under this alternative would exceed the proposed Downtown Plan open space requirements (1 sq. ft. of open space for

---

1. Department of City Planning, Downtown Plan, August, 1983.

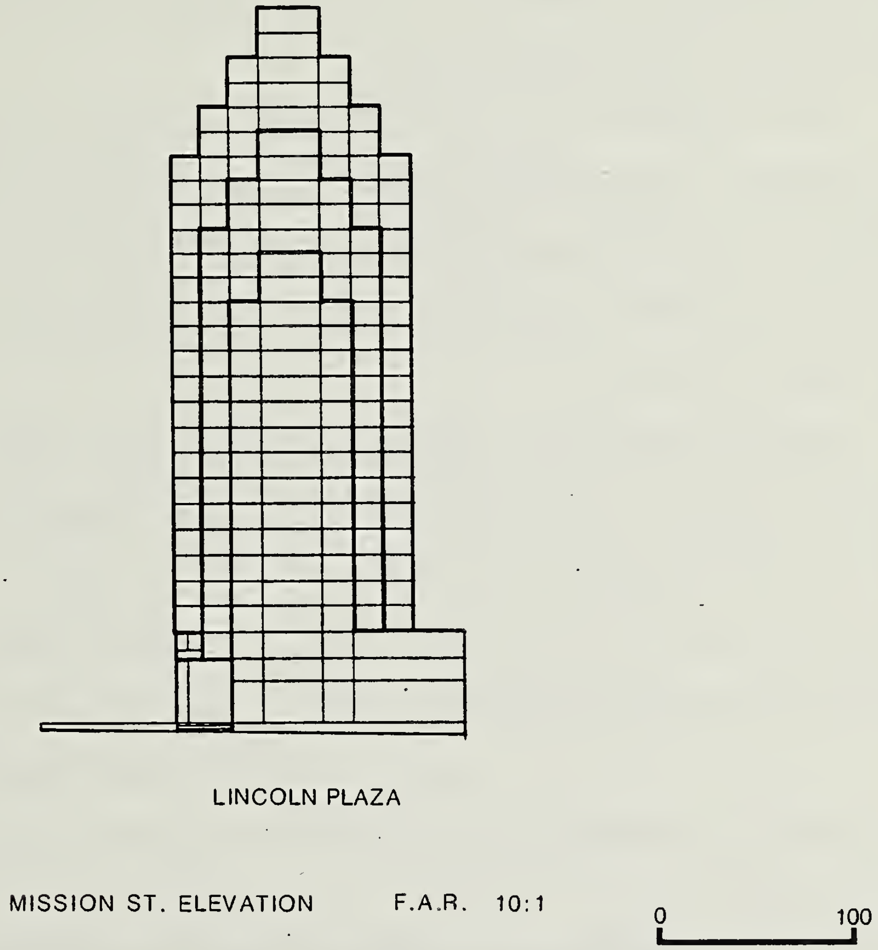

**Figure 43** Mission Street Elevation

**Alternative 2** F.A.R. 10:1

**Proposed Downtown Plan Alternative**

**Lincoln Plaza**

N

Source: HOK Architects and Bendix Environmental Research, Inc.

for each 50 sq. ft. of floor area, DTP, p. 16) by 6,300 sq. ft. The plaza would be designed in compliance with the Downtown Plan guidelines, p. 54.

According to the Department of City Planning's housing requirement guidelines, housing demand generated by the office space of this alternative would be about 240 units.[1] The housing demand would be about 130 units less than for the proposed project.

The employment-related impacts of this alternative would be about 40% less than for the proposed project because the smaller area would provide fewer jobs. Air pollution, transportation, fiscal and energy, and other impacts proportional to building size, would be reduced by about 25% due to the smaller building.

Project sponsor has rejected this alternative because of the belief that conforming to bulk and design limitations recommended in the Downtown Plan is not necessary to achieve high quality design. Furthermore, the sponsor believes that the project already responds to many recommendations contained in the Downtown Plan, such as open space requirements, ground floor retail use, and an innovative and sculptured tower design; and believes that this alternative would be an economic under-use of the site.

### ALTERNATIVE 3. PARKING: NO PARKING/THREE LEVELS OF PARKING

This alternative proposes two parking options; the proposed project with no underground parking and the proposed project with three underground levels of underground parking. Tower design and commercial square footage would not be changed by either option.

---

[1] Housing Requirement $= \frac{\text{Gross sq. ft. office space}}{\text{250 sq. ft.}} \times \frac{40\%}{\text{1.8 persons/unit}}$

### 3a. No Parking

The first option would remove the existing 200 spaces on-site. The elimination of parking on the project site would reduce auto trips to the project. It is expected that with fewer available parking spaces the number of people driving to work and the associated commute hour traffic and air quality impacts would be reduced and that transit demand might be higher than previously estimated. A parking shortage would be expected to cause modal shifts to public transit and carpooling. The latter would tend to increase the average number of persons per car or vanpool vehicle, consistent with policies of the Downtown Plan.

The proposed project is in an area in which new long-term parking is discouraged by the Transportation Element of the Master Plan and by the proposed Downtown Plan (pp. 123 and 126). The no parking alternative would be consistent with both Plans.

Urban Design impacts would be similiar to those of the proposed project, as would shadow and wind impacts.

Costs to the City would be increased due to increased ridership on subsidized transit lines. Removal of all parking from the project would eliminate proceeds to the City from the parking receipts tax.

If no parking were included in the project, there would be a net decrease of 200 long-term parking spaces. Open space area would be increased by the removal of parking ramps, there would be no curb cut on Anthony St., and little project-related vehicular traffic would use Anthony St. Plaza access would be improved.

The project sponsor has rejected this alternative because the absence of parking would make the project difficult to market to government agencies and other prospective tenants requiring parking as a condition of their lease. This alternative would require building occupants working late or Golden Gate University students to wait for a bus at a time of infrequent bus service or to walk some distance to their cars. These impacts could be mitigated for project building tenants through guard escort service.

### 3b. Three Levels of Parking

This alternative would have 60,000 more sq. ft. of parking and 190 more parking spaces than the proposed project. The parking area would total 100,000 sq. ft. comprising approximately 285 spaces on three underground levels. Parking square footage in excess of 7% of the total gross floor area would require Conditional Use authorization by the Planning Commission and would be counted toward the project FAR. As a result the FAR for this alternative would be approximately 16:1. To allow this alternative to exceed the current maximum FAR of 14:1, development rights would be acquired from another site(s). The office and retail square footage would be the same as the proposed project.

The 285 spaces proposed by this alternative would represent a 42% increase from the existing 200 spaces and a 200% increase from the proposed project (95 spaces). Traffic on Mission, Jessie and Anthony Sts. and associated air quality impacts would increase as a result. Turning movements off Mission St. onto Anthony St. and queuing on Anthony St. would increase.

---

1. San Francisco Planning Code, §204.5 excludes parking square footage equal to 7% of the total gross floor area in the C-3-0 (Downtown) planning District. Parking in excess of 7% of total gross floor area is in included in FAR calculations and would require a Conditional Use authorization.

Costs to the City would be decreased due to reduced ridership on Muni. Parking tax revenues would increase from $17,000 for the proposed project to $51,000 under this alternative. Costs to the City could be increased by the need for more traffic control.

This alternative would provide convenient attended day and evening parking for the students and faculty of Golden Gate University and project workers.

The project sponsor is considering this alternative. A final decision would be based on availability of transfer development rights and approval of a Conditional Use permit.

## ALTERNATIVE 4. DESIGN ALTERNATIVE

A building with its narrow face towards the southwest (the proposed project would have its narrow face toward the south) would intercept less wind and have less impact on windspeed. This would require the long axis of the building to be essentially parallel to Mission St. If such a building were to come to the Mission St. sidewalk, in order to provide definition of the Mission streetscape, the plaza would be north of the building. Most of the plaza would be always shaded. This plaza would not be visible from Mission St. except to persons looking up Anthony from the west side of the intersection of Mission and Anthony Sts. and would not provide visual interest and greenspace for Mission St. pedestrians. This potential design was rejected by the project sponsor because it would provide a less usable plaza.

## ALTERNATIVE 5. NO PROJECT

This alternative would involve no change to the project site and/or vicinity. None of the impacts discussed in this document would occur. Three Heritage "C" rated buildings would be preserved, the parking lot would remain and a plaza would not be provided for persons working or visiting the site. Other development could be proposed in the future. Because of increasing construction costs,[1] it is possible that fewer public amenities would be affordable by a future project sponsor.

No development or development at a different location has been rejected by the project sponsor because of the existing investment in the project site and sponsor's conviction that project site is a prime location for the proposed project and that there is a need to improve the area.

---

[1] Engineering News Record, Market Trends, September 16, 1982, construction costs in San Francisco increased 13% over the last year (1981-1982).

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# APPENDIX I.

# INITIAL STUDY FOR ONE ANTHONY COURT (LINCOLN PLAZA)

DEPARTMENT OF CITY PLANNING 450 McAllister St. - 5th Floor
(415)558-5260

# NOTICE THAT AN ENVIRONMENTAL IMPACT REPORT IS DETERMINED TO BE REQUIRED

Date of this Notice: December 10, 1982

Lead Agency: City and County of San Francisco, Department of City Planning
450 McAllister St. - 5th Floor, San Francisco CA 94102

Agency Contact Person: Carol Roos Tel: (415) 558-5260

Project Title: 81.297E:
One Anthony Court
(562 Mission Street)

Project Sponsor: Lincoln Property Company

Project Contact Person: Carl Danielson

Project Address:

Assessor's Block(s) and Lot(s): Lots 15, 17 and 18 in Assessor's Block 3708

City and County: San Francisco

Project Description: Demolition of two, six-story buildings, a parking lot, subsurface garage and photo kiosk. Construction of a 429-foot-tall building containing about 645,480 gross sq. ft. : 542,000 sq. ft. of office; 13,000 sq. ft. retail. 77,980 sq. ft. parking and 3 loading spaces are proposed.

THIS PROJECT MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT AND AN ENVIRONMENTAL IMPACT REPORT IS REQUIRED. This determination is based upon the criteria of the Guidelines of the State Secretary for Resources, Sections 15081 (Determining Significant Effect), 15082 (Mandatory Findings of Significance) and 15084 (Decision to Prepare an EIR), and the following reasons, as documented in the Initial Evaluation (initial study) for the project, which is on file at the Department of City Planning:

Please see the attached Initial Study including the Environmental Evaluation Checklist.

Deadline for Filing of an Appeal of this Determination to the City Planning Commission: December 20, 1982.

An appeal requires 1) a letter specifying the grounds for the appeal, and 2) a $35.00 filing fee.

Alec S. Bash

Alec S. Bash, Environmental Review Officer

ER5 6/80

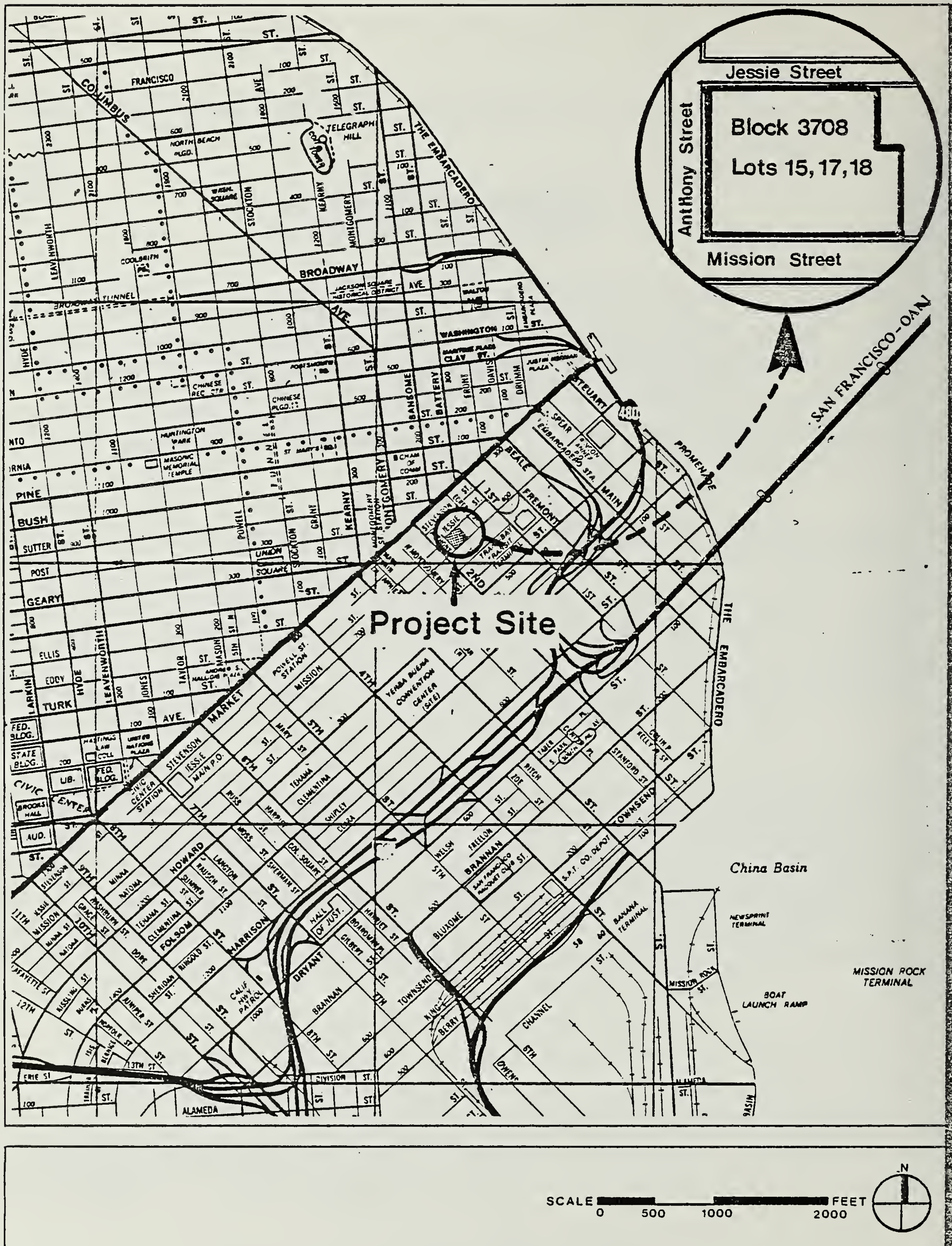
# I. PROJECT DESCRIPTION

The proposed One Anthony Court Office Building is planned for office, retail/commercial uses and parking. The project site is located in the downtown office area of San Francisco fronting Jessie and Mission Streets. Anthony Street borders the west side of the site and Golden Gate University is adjacent to the east boundary (Figure 1). The main entrance to the project would be on Anthony Street. The site is in Assessor's Block 3708, lots 15, 17, and 18 and is approximately 39,762.5 square feet.

The proposed project site contains two 6-story buildings used for offices, a parking lot, a subsurface parking garage for 140 vehicles and a kiosk for commercial photo processing. The two buildings (containing a total of approximately 144,000 gross square feet), the parking facility, and the kiosk would be demolished and replaced with the proposed One Anthony Court office structure. Existing business and commercial establishments on the site would have to be relocated prior to construction.

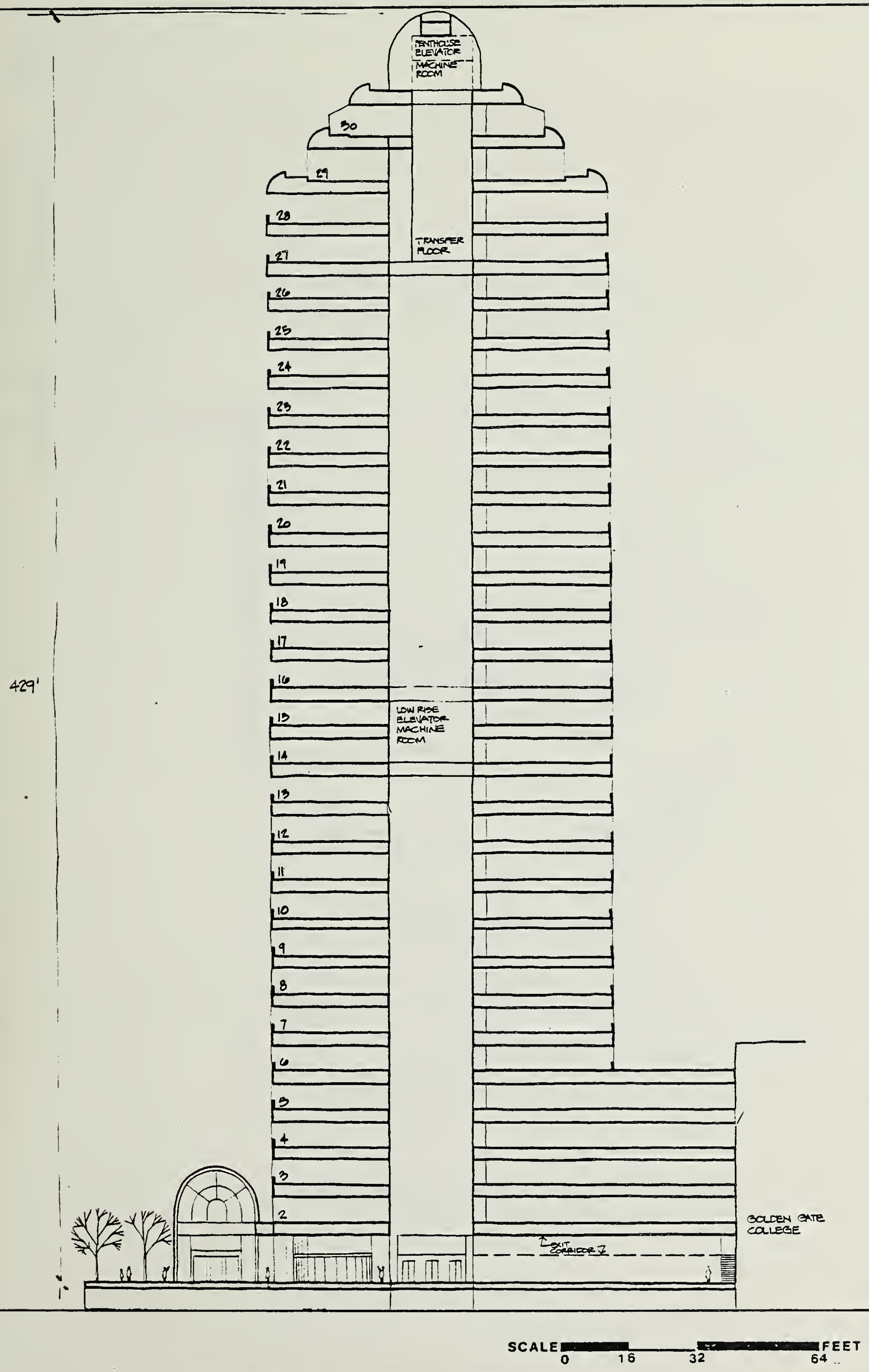
The total project, including office, commercial/retail, mechanical, service, and two underground levels of parking space would comprise approximately 645,480 gross square feet. About 542,000 gross square feet of office space would be included. The building would rise 30 stories or 429 feet above grade (Figure 2), with a floor area ratio (FAR) of 14:1. Approximately 77,980 square feet of parking, or 220 spaces would be provided on-site, below grade with access from Anthony Street; three loading spaces are proposed. A portion of the project site on Anthony and Jessie would be landscaped for an open plaza.

The ground floor of the highrise is planned for the lobby, retail/commercial space, mechanical space and access to the 2,500 square foot barrel-vaulted atrium (Figure 3). About 13,000 gross square feet of retail sales area would be available. Additional entrances to the ground floor commercial areas are anticipated to be located on Mission and Jessie Streets. The building would contain about 10,000 square feet of mechanical space.



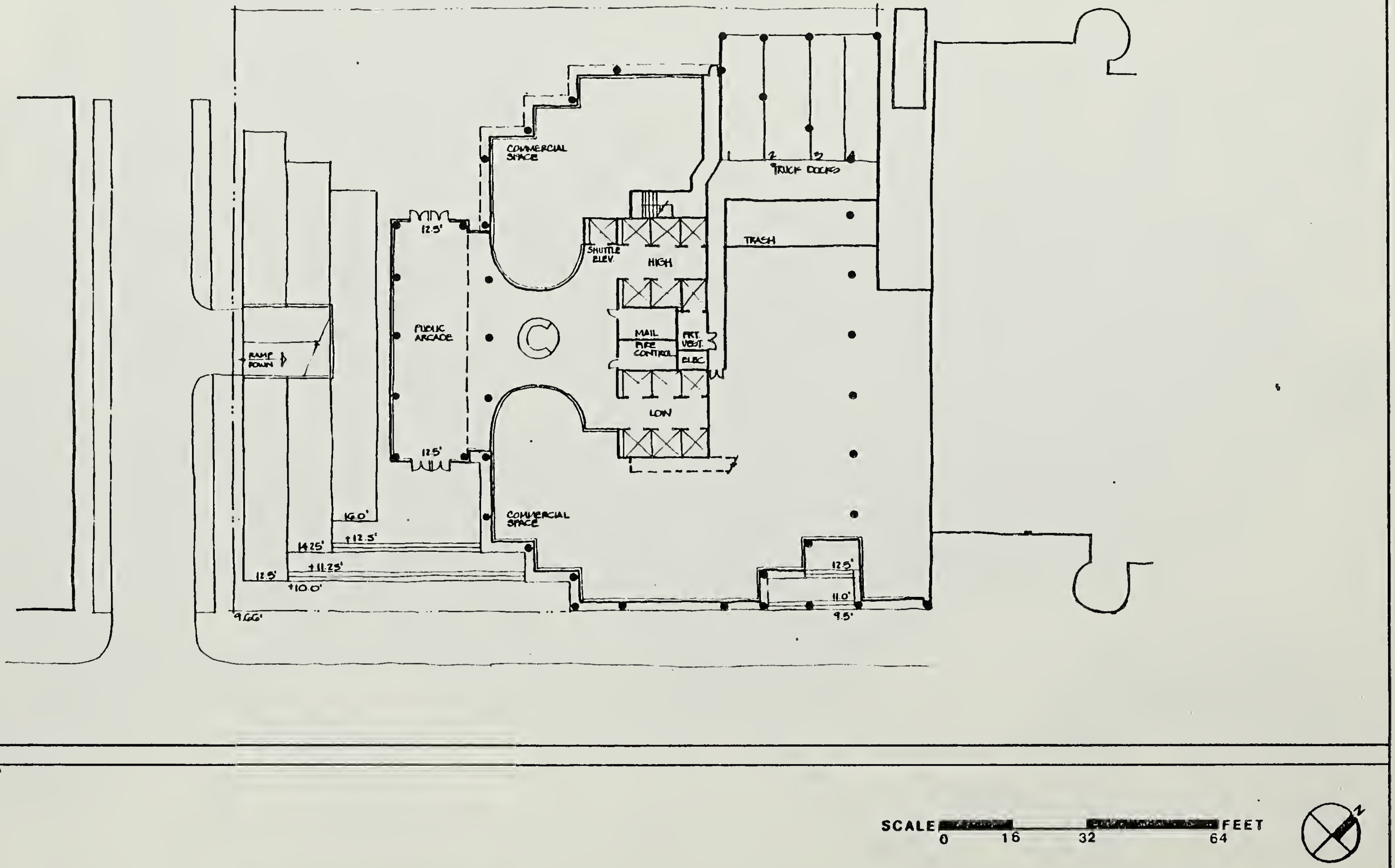
SITE LOCATION MAP

**Figure: 1**



ELEVATION (South)

**Figure: 2**



GROUND FLOOR

Figure: 3

Floors 1 to 30 in the highrise building are designated for office use. The building would be built to the property line with set-backs at the 6th, 29th and 30th floors and mechanical penthouse. The office facade would be constructed of stone material, travertine, metal or precast spandrel panels with solex glass.

The site is in a C-3-0 (Downtown Office) zoning district and a 600-I Height and Bulk District. The allowable Basic Floor Area Ratio (FAR) for the site is 14:1.

The project sponsor is Lincoln Property Company. The architect for the project is Hellmuth, Obata and Kassabaum, Inc.

## II. POTENTIAL ENVIRONMENTIAL EFFECTS

### A. SIGNIFICANT EFFECTS

The proposed One Anthony Court Office Building may generate environmental impacts which could be considered significant and which will be analyzed in an Environmental Impact Report. Potential environmental effects that could result from the One Anthony Court structure include the following areas:

- pattern, scale and character of development in the project area
- long-range views from some adjacent buildings
- population to be employed on the project site, and subsequent demand on the supply of housing in the City
- shadows from the building
- circulation and existing vehicular and transit systems effects
- demand for parking spaces
- potential change in wind ratios at street level
- noise impacts of pile driving during construction
- cumulative effects on public services and utilities
- energy demand aspects
- cumulative effects on air quality
- cultural resources

### B. INSIGNIFICANT EFFECTS

The proposed project would not result in significant environmental effects in several areas. These potential environmental issues will not be addressed in the subsequent EIR.

Noise: After project completion, ambient noise levels in the project vicinity would not increase due to the project. Noise insulation features would be included in the project design with reference to the standards of Title 25 of the California Administrative Code.

Air Quality: The project sponsor has agreed to mitigation measures which would decrease suspended particulates during demolition and construction.

Utilities and Public Services: The increased demand for public services and utilities generated by the proposed project alone would not require additional personnel or equipment. The cumulative impacts of the proposed project and other downtown office highrise buildings, however, may have significant impacts on some services and will be discussed in the EIR for this project.

Biology: The proposed project would have no effect on plant or animal life on the project site or in the surrounding area.

Topography, Soils, and Geology: The proposed One Anthony Court office building project is not expected to have a major impact on the topography, soils, or geology of the project site. However, a thorough geotechnical analysis and report by registered engineers and geologists will be necessary to complete the final foundation design.

Water: The proposed project would not affect the quality of water, alter runoff patterns, or affect public water supply or groundwater (i.e. dewatering would not be required during construction).

Hazards: The proposed project would not be affected by hazardous uses or health hazards in the area nor would there be a potential for health hazards from the project.

## III. ENVIRONMENTAL EVALUATION CHECKLIST

### A. GENERAL CONSIDERATIONS:

| | Yes | Maybe | No | N/A | Disc. |
|---|---|---|---|---|---|
| 1. Would the project conflict with objectives and policies in the Comprehensive Plan (Master Plan) of the City? | | X | | | X |
| 2. Would the project require a variance, or other special authorization under the City Planning Code? | | | X | | X |
| 3. Would the project require approval of permits from City Departments other than DCP or BBI, or from Regional, State or Federal Agencies? | | | X | | X |
| 4. Would the project conflict with adopted environmental plans and goals? | | | X | | X |

Master Plan policies will be reviewed in depth in the EIR and specific discussions directed to the Urban Design Element and the Transportation Element.

By resolution number 8474, adopted January 17, 1980, the City Planning Commission declared its intent to invoke its power of discretionary review for any highrise proposed in the downtown area. The proposed project would be subject to this review which would include, but not be limited to, an analysis of "protection and enhancement of the pedestrian environment, preservation of architecturally and historically significant buildings, preservation of housing, avoidance of industrial displacement, adequate and appropriate means of transportation to and from the project site, energy conservation, physical relationship of the proposed building to its environs, (and) effect on views from public areas on the City skyline.[1] Two documents which proposed guidelines for new development, Guiding Downtown Development and the SPUR, South of Market Plan, will be discussed as they affect the project, in the EIR.

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[1] San Francisco City Planning Commission, Resolution 8474, January 17, 1980.

## B. ENVIRONMENTAL IMPACTS:

| | Yes | Maybe | No | N/A | Disc. |
|---|---|---|---|---|---|
| 1. Land Use. Would the proposed project: | | | | | |
| a. Be different from surrounding land uses? | | X | | | X |
| b. Disrupt or divide the physical arrangement of an established community? | | X | | | X |

The project site is located in the southern part of the downtown area of San Francisco. The site encompasses 554 to 584 Mission Street and is currently used for office, commercial and parking activities. Two 6-story warehouse buildings that have been converted to office use are the major structures on the site. A parking lot and subsurface parking garage for 140 automobiles and a small commercial photo-processing kiosk are also located on the project site.

The surrounding land uses are office, retail/commercial and short-term vehicle parking. The project block contains one and two-story office/commercial buildings; three and five-story brick warehouse and manufacturing buildings; five and six-story office and wholesale furniture sales buildings; the eight-story granite and brick Pacific Telephone Company building (facing the site on Anthony Street); a two-story concrete parking garage for automobile repair; Golden Gate University (abutting the site); and a small one-story restaurant (abutting the site). The 30-story project would be taller than the other buildings on the block. The configuration of the project would differ from surrounding land uses, especially those on Anthony Street.

Across Mission Street are brick office buildings ranging from two to six stories, wholesale manufacturing and retail sales facilities, and a two-story concrete parking garage.

The project would increase the density of office and commercial uses on the site. The retail uses on the ground level would be similiar to those now in the project area. The parking facilities in the proposed project would contain 80 more parking spaces than currently available on the project site.

The above matters require discussion in the EIR.

| 2. Visual Quality and Urban Design. Would the proposed project: | Yes | Maybe | No | N/A | Disc. |
|---|---|---|---|---|---|
| a. Obstruct or degrade any scenic view or vista open to the public? | | | | X | X |
| b. Reduce or obstruct views from adjacent or nearby buildings? | X | | | | X |
| c. Create a negative aesthetic effect? | | X | | | X |
| d. Generate light or glare affecting other properties? | | X | | | X |

The proposed project would not obstruct views or vistas open to the public. Some views from adjacent buildings could be partially blocked (particularly from the 595 and 525 Market Street Buildings, the two Standard Oil Towers and the Tishman Building all north or northwest of the site). Further study of views of the project from various locations in the City (and the Oakland-Bay Bridge and the San Francisco Bay) are necessary to determine the extent of the visual impacts and will be included in the EIR.

Light would be noticeable from the proposed project; this could be tempered by the tinted glass materials proposed for the building's exterior and interior design features such as curtains.

Project visibility, sunlight and shadow, wind and conformance to the Urban Design Plan are some of the design issues to be discussed in the EIR.

| | | | | | |
|---|---|---|---|---|---|
| 3. Population/Employment/Housing: Would the proposed project: | | | | | |
| a. Alter the density of the area population? | X | | | | X |
| b. Have a growth-inducing effect? | | X | | | X |
| c. Require relocation of housing or businesses, with a displacement of people, in order to clear the site? | X | | | | X |
| d. Create or eliminate jobs during construction and operation and maintenance of the project? | X | | | | X |
| e. Create an additional demand for housing in San Francisco? | X | | | | X |

The proposed project would displace employees and businesses currently located in the 562-572 and 560 Mission Street office buildings, the parking facility and the photo-processing kiosk. Approximately 620 person-years of construction employment could be created by full development of the project. The project would result in about 2,300 jobs in the office and commercial/retail spaces, including maintenance and management of the building (and parking facilities). The project would increase the density of land use and employment on the site.

Because the project would facilitate an increase in San Francisco employment, it can be expected that there would be an additional demand for housing units. This impact will be discussed in the EIR.

The cumulative effects of increased growth in the area will be discussed in the EIR.

### 4. Transportation/Circulation.

| Would the construction or operation of the project result in: | Yes | Maybe | No | N/A | Disc. |
|---|---|---|---|---|---|
| a. Change in use of existing transportation systems? (transit, roadways, pedestrian ways, etc.) | X | | | | X |
| b. An increase in traffic which is substantial in relation to existing loads and street capacity? | | X | | | X |
| c. Effects on existing parking facilities, or demand for new parking? | X | | | | X |
| d. Alteration to current patterns of circulation or movement of people and/or goods? | | X | | | X |
| e. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians? | | X | | | X |
| f. A need for maintenance or improvement or change in configuration of existing public roads or facilities? | | X | | | X |
| g. Construction of new public roads? | | | X | | |

The project-related and cumulative impacts for transportation (including circulation, transit, parking and pedestrian effects) and parking demand will be further considered in the EIR. Other areas to be discussed include the project's relationship to Mission Street, a designated transit street; to the nearby East Bay Transit Terminal; and to Jessie and Anthony Streets.

| 5. Noise | Yes | Maybe | No | N/A | Disc. |
|---|---|---|---|---|---|
| a. Would the proposed project result in generation of noise levels in excess of those currently existing in the area? (during construction) | X | | | | X |
| b. Would existing noise levels impact the proposed use? | | X | | | X |
| c. Are Title 25 Noise Insulation Standards applicable? | | | X | | X |

Noise levels in excess of those existing in the area would not result from project operation, although higher walls along the street could amplify existing noise. The amount of traffic generated by the project during any hour of the day would probably cause traffic noise levels to increase by less than one dBA.[1]

A 77,980 square foot parking area is proposed below grade with access from Anthony Street. Loading and loading docks for commercial deliveries are proposed in the basement level with access from Jessie Street. Such facilities would also generate additional traffic, but this traffic would cause no more than a one-dBA increase in environmental noise which is undetectable by the untrained human ear.

Mechanical equipment noise is regulated by the San Francisco Noise Ordinance, (Part II, Chapter VII, San Francisco Municipal Code), Section 2909, "Fixed Source Noise Level," which the project sponsor is committed to follow. The noise ordinance limits equipment noise levels in the downtown area to 70 dBA between 7 a.m. and 10 p.m. and 60 dBA between 10 p.m. and 7 a.m. at the property line. Mechanical equipment for the proposed project would be limited to 70 dBA during the day and to 60 dBA to meet the nighttime limit. Further discussion will not be included in the EIR.

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[1] dBA is the measurement of sound units of decibels (dB). The "A" denotes the A-weighted scale which simulates the response of the human ear to various frequencies of sound.

As is typical of downtown San Francisco, the noise environment of the site is dominated by vehicular traffic noise. The Environmental Protection Element of the San Francisco Comprehensive Plan contains guidelines for determining the compatibility of various land uses with different noise environments. For office uses the guidelines recommend no special noise control measures in an exterior noise environment under a noise level ($L_{dn}$)[1] of 70 dBA. The exterior noise levels at the site are estimated to be 70 to 75 dBA.[2] For these noise levels, the guidelines require an analysis of noise reduction requirements and inclusion of noise insulation features in the building design. The project sponsor has agreed to have an analysis done which would include recommended noise insulation features in the final building design; therefore, no further analysis is necessary in the EIR. The project sponsor would follow the recommendations of the analysis to comply with all provisions of the San Francisco Building Code and Noise Ordinance.

An acoustical analysis to show that the building would meet an interior CNEL[3] requirement of less than 45 dBA with the windows closed would be performed because the exterior noise environment of the site could exceed a CNEL of 60 dBA at street level. The project would be constructed with reference to Title 25 Noise Insulation Standards of the California Administrative Code. Thus, existing ambient noise levels would not noticeably affect the project and no further discussion is needed.

Project construction would require approximately two years and would involve demolition of existing buildings, and construction of the proposed structure. These construction activities would temporarily result in noise levels in excess of those existing in the site vicinity.

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[1] $L_{dn}$, the day-night average noise level, is a noise measurement based on human reaction to cumulative noise exposure over a 24-hour period, taking into account the greater annoyance of nighttime noise (noise between 10 p.m. and 7 a.m. is weighted ten dBA higher than daytime noise).

[2] Data collected in July 1974 for the report, Noise in San Francisco by Bolt Beranek & Newman, were used to develop noise level contours for the Transportation Noise Element of the "Comprehensive Plan of the City and County of San Francisco Plan for Transportation Noise Control," a section of the Environmental Protection Element, adopted September 19, 1974.

[3] Community noise equivalent level (CNEL) is an averaged sound level measurement based on human reaction to cumulative noise exposure over a 24-hour period. The numerical values of CNEL and $L_{dn}$ are essentially equal for most urban noise environments.

The EIR would quantify the noise impacts of the construction equipment to be used including, but not necessarily limited to, bulldozers, graders, haul trucks, front end loaders, concrete pumpers, cranes, air compressors, generators and impact tools. In addition, noise impacts due to construction traffic would be assessed. The severity of these impacts would be evaluated in the EIR and mitigation measures designed to reduce these impacts would be included.

| 6. Air Quality/Climate. Would the proposed project result in: | Yes | Maybe | No | N/A | Disc. |
|---|---|---|---|---|---|
| a. Violation of any ambient quality standard or contribution to an existing air quality violation? |  | X |  |  | X |
| b. Exposure of sensitive receptors to air pollutants? |  |  | X |  | X |
| c. Creation of objectionable odors? |  |  | X |  | X |
| d. Burning of any materials including brush, trees, or construction materials? |  |  | X |  |  |
| e. Alteration of wind, moisture, or temperature (including sun shading effects), or any change in climate, either locally or regionally? | X |  |  |  | X |

Demolition and construction activities would generate dust, carbon monoxide, and nitrogen oxides. Local concentrations of these emissions would be dependent upon particulate size, time of day, and microclimate conditions; particulate concentrations likely would often exceed the state's 24-hour standard of 100 micrograms per cubic meter (ug/m.$^3$) Mitigation measures incorporated by the project sponsor would include wetting of the construction site to reduce dust from construction activities as well as wind erosion of exposed earth surfaces. Twice a day application of 0.5 gallons of water per square yard of earth surface can supress dust emissions by 50%.[2]

San Francisco currently is a nonattainment area[1] for ozone and carbon monoxide. According to the Clean Air Act of 1970 (as amended), air quality must be in compliance with federal standards by 1987. Project construction would affect total suspended particulate concentration near the site. Because this is a short-term, localized impact, it would not interfere with efforts to attain the total suspended particulate standard elsewhere in the region.

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[1] The Environmental Protection Act defines a "nonattainment" area as an area in which 1 or more measurable federal standards are violated. ABAG, Bay Area Air Quality Plan, January 1979.

[2] Guidelines for Air Quality Impact Analysis of Projects, Bay Area Air Pollution Control District, San Francisco, June 1975, updated July 1981.

No sensitive receptors (hospitals, convalescent homes, churches) have been identified in the vicinity of the proposed project. Local concentrations of carbon monoxide, and regional concentrations of hydrocarbons and nitrogen oxides would increase as a result of increased traffic stimulated by the development. Individually, these incremental changes in air pollution in the region would be insignificant; cumulatively, developments such as this could increase reported concentrations and frequency of standard violations and affect achievement of compliance by 1987. Cumulative air quality issues will need additional analysis.

The project site may be exposed to winds. Although design features included in the proposed project are known to reduce ground-level wind acceleration near buildings, wind tunnel tests of the proposed designs will be made and analyzed in the EIR.

The project would create and cast new shadows on the surrounding street areas. The shadow effects will be discussed in the EIR.

| 7. Utilities and Public Services. Would the proposed project: | Yes | Maybe | No | N/A | Disc. |
|---|---|---|---|---|---|
| a. Have an effect upon, or result in a need for new or altered, governmental services in any of the following? | | | X | | X |
| fire protection | | | X | | X |
| police protection | | | X | | X |
| schools | | | X | | X |
| parks or other recreational facilities | | | X | | X |
| maintenance of public facilities | | | X | | X |
| power or natural gas | | | X | | X |
| communications systems | | | X | | X |
| water | | | X | | X |
| sewer/storm water drainage | | | X | | X |
| solid waste collection and disposal | | | X | | X |

The proposed project is not expected to have an adverse impact on the demand for utilities and public services; however, the EIR will address the potential cumulative impact on municipal services by increased development in Downtown San Francisco.

The project would increase the building area on the site and the number of persons using the project area and may increase the fire hazard. The project would, however, incorporate more extensive fire protection measures than most existing buildings in the area to comply with the more stringent code standards now in effect. The project would not require more fire department personnel or equipment; water for fighting fires would be available to the project from both the domestic and high-pressure water systems within the site. Response time to the site would be about four minutes.[1]

The proposed office building project would increase population and property on the site, thereby increasing the opportunity for crime. The police department anticipates an increase in theft of office equipment at the site. Appropriate mitigation measures (alarms, adequate lighting in entry ways, security personnel, etc.) would be incorporated into the project. Additional personnel or equipment will not be required by the police department for the project; however, cumulative growth in the area could increase demand for police services.[2]

It is not anticipated that the project would generate a demand on school services. The San Francisco School District has experienced declining enrollment in recent years and could absorb any additional students generated by the project.[3]

A plaza and atrium for office employees have been incorporated into the proposed project design. It is not anticipated that the project would generate demand on parks or other recreational facilities in the City or have any direct effect on maintenance of public facilities.

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[1] Chief Joseph Sullivan, Division of Planning and Research, San Francisco Fire Department, letter communication, July 30, 1981.

[2] Captain Jordan, Southern Station, San Francisco Police Department, telephone conversation, August 4, 1981.

[3] Robert Walker, Manager, Student Assignment, Office San Francisco Unified School District, telephone communication, March 2, 1982.

There would be a net increase in the consumption of energy on the site generated by the proposed project. The proposed office building would be served by a high voltage line and high pressure gas main beneath Mission Street. PG&E does not anticipate difficulty in providing the required amount of natural gas or electricity to the project.[1] The project sponsor has indicated that the project would conform to energy commission standards for residential and nonresidential buildings (Title 24 of California Administrative Code). This issue will be covered in the EIR.

There would be an increase in demand for communication systems generated by the proposed project. A Pacific Telephone Company trunk line extends beneath Mission Street; no supplier capacity problems exist and Pacific Telephone does not anticipate difficulty providing increased services to the project site.[2]

The project would result in a net increase of water consumption at the site of approximately 84,600 gallons per day (GPD). Eight-inch water mains serve the project site on Jessie and Anthony Streets and a 12-inch diameter main is located in Mission Street. They can adequately serve the domestic and fire demands of the proposed project. Due to traffic conditions and restrictions imposed by the City while excavating on Mission Street, it may be less expensive to install service to the site from Jessie or Anthony Streets.[3]

The amount of wastewater generated by the project would be about the same as the water consumed. The project could be served by the existing 2-foot x 6-inch by 3-foot 9-inch sewer on Mission or the new 15-inch main on Jessie and 12-inch line on Anthony Street. These would be adequate to handle increased surface flows as well as storm drainage. It is not anticipated that the City would have any difficulties in providing services to the site.[4]

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[1] Jerry Tyson, Marketing, Pacific Gas and Electric, telephone conversation, August 4, 1981.

[2] Jack McGovern, Building Industry, Pacific Telephone, telephone conversation, August 4, 1981

[3] J.E. Kenck, Manager, City Distribution Division, San Francisco Water Department, letter, July 31, 1981. (now retired)

[4] Nathan Lee, San Francisco Clean Water program, telephone communication, August 3, 1981.

The proposed office building project would generate a net increase in solid waste to an estimated three tons per day.[1] However, approximately 40 to 60% of office waste is composed of high grade recyclable paper.[2] The Golden Gate Disposal Company recommends that space for a 20-25 yard compactor be designed into the building. The disposal would remove solid waste every four to five days, and does not anticipate problems in meeting the demand generated by the proposed development.[3]

8. Biology

| | Yes | Maybe | No | N/A | Disc. |
|---|---|---|---|---|---|
| a. Would there be a reduction in plant and/or animal habitat or interference with the movement of migratory fish or wildlife species? | | | X | | |
| b. Would the project affect the existence or habitat of any rare, endangered or unique species located on or near the site? | | | X | | |
| c. Would the project require removal of mature scenic trees? | | | X | | |

9. Land. (topography, soils, geology) Would the proposed project result in or be subject to:

| | Yes | Maybe | No | N/A | Disc. |
|---|---|---|---|---|---|
| a. Potentially hazardous geologic or soils conditions on or immediately adjoining the site? (slides, subsidence, erosion, and liquefaction) | | X | | | X |
| b. Grading? (consider height, steepness and visibility of proposed slopes; consider effect of grading on trees and ridge tops) | | | X | | |
| c. Generation of substantial spoils during site preparation, grading, dredging or fill? | | | X | | X |

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[1] California Solid Waste Management Board, "Solid Waste Generation Factors in California," Bulletin No. 2, July 1974.

[2] David Cohen, Special Projects, Chief Administrative Office, City of San Francisco, telephone conversation, January 14, 1982.

[3] Fiore Garbarino, Office Manager, Golden Gate Disposal Compay, telephone conversation, August 3, 1981.

The proposed project site is nearly level at approximately Elevation +10 feet, San Francisco Datum (SFD).[1] According to the current geologic map of San Francisco[2], the underlying sediments consist of 36 feet of artificial fill over 13 feet of bay mud and clay. These materials are underlain by undifferentiated sand, clay and gravel deposits which extend to bedrock at approximately -270 feet SFD.[3] The Bay mud represented here is assumed to be the softer, unconsolidated upper bay mud which usually occurs between Elevation -20 feet SFD and -40 feet SFD in this area.[4] Dune sand and Colma Formation sand probably form the upper 45 feet of the undifferentiated clay and gravel deposits.[5] Groundwater occurs at approximately -17 feet SFD.[6]

Construction on artificial fill overlying bay mud requires special engineering considerations because of their divergent physical properties.[7] Artificial fill is porous, has a low clay content, a high sand content and reacts to stress (loading, groundshaking) as a rigid material. Bay mud has a high water content, a high clay content, a low sand content and reacts to stress as a plastic material.

These matters require no further study in the EIR.

Heavy or rapid stress results in the development of excessive water pressure within the nearly impermeable Bay mud causing a loss of strength and consequent soil failure. When the mud shifts or flows, the overlying fill lurches and fractures. Structures placed on the fill would break up, tilt or sink.[1] This type of occurrence would be mitigated by placing the structure on concrete pile caps tied together with reinforced steel grade beams. The precast piles would extend five to ten feet into the dense sand below the bay mud.[2] The existence of 1 subsurface level used exclusively for parking could also reduce the stress on the Bay mud.

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[1] San Francisco Datum is 8.6 feet above mean sea level.

[2] Schlocker, J., Geology of the San Francisco North Quadrangle, California, U.S. Government Printing Office, Washington, D.C., 1974, plate 1, scale 1:24,000.

[3] Ibid.; plate 1, bore hole log 5, scale 1:1500.

[4] Goldman, H.B. (editor); Geologic and Engineering Aspects of San Francisco Bay Fill, Special Report 97, California Division of Mines and Geology, San Francisco, California, 1969, plate 3, scale approximately 1:79,000.

[5] Schlocker, Op cit., plate 1, bore hole log 5, scale 1:1500.

[6] Erik Tryde, Civil Engineer, Skidmore, Owings and Merrill Architects, telephone conversation, August 5, 1981.

[7] Schlocker, Op. cit., Table 2, pages 83-84.

The presence of artificial fill over Bay mud and the need for special foundations indicates that a complete geotechnical site study would be needed to complete the final foundation design. The project sponsor would have such a study prepared by a California-licensed soils engineer and would follow the study's recommendations.

The site is pre-excavated and contains one subsurface level of parking. No soil is expected to be removed from the site. It is possible that a small amount of new fill may be required if existing site materials are not sufficient for the project's requirements.[3]

This subject will not be discussed further in the EIR.

| 10. Water. Would the proposed project result in: | Yes | Maybe | No | N/A | Disc. |
|---|---|---|---|---|---|
| a. Reduction in the quality of surface water? | | | X | | |
| b. Change in runoff or alteration to drainage patterns? | | | X | | |
| c. Change in water use? | X | | | | X |
| d. Change in quality of public water supply or in quality or quantity (dewatering) of groundwater? | | | X | | X |

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[1] Goldman, H.B. (editor); Geologic and Engineering Aspects of San Francisco Bay Fill, Special Report 97, California Division of Mines and Geology, San Francisco, California, 1969, plate 3, scale approximately 1:79,000, page 45.

[2] Mr. Erik Tryde, Civil Engineer, Skidmore, Owings and Merrill, Architects, telephone conversation, August 5, 1981.

[3] Ibid.

Water use for the proposed project is estimated to be approximately 86,000 gallons per day (GPD). There is no surface water at the site. The site is currently impermeable due to coverage of buildings and the parking lot. It is not anticipated that drainage patterns would change or stormwater volumes increase since the runoff coefficient of the site (80% to 95%) would be unchanged. Stormwater runoff would flow into the City sewer system, rather than to the water table, and would have no impact on the water table. The City's storm drain system which would service the project site has sufficient excess capacity to accommodate the proposed development.[1] There would be increase in water usage at the site to approximately 84,600 gallons per day; however, San Francisco has adequate water collection and distribution facilities to accommodate this increase.[2] No dewatering is expected to be required for construction of this project.

| 11. Energy/Natural Resources. Would the proposed project result in: | Yes | Maybe | No | N/A | Disc. |
|---|---|---|---|---|---|
| a. Any change in consumption of energy? | X |  |  |  | X |
| b. Substantial increase in demand on existing energy sources? |  | X |  |  | X |
| c. An effect on the potential use, extraction, conservation or depletion of a natural resource? |  | X |  |  | X |

There would be an increase in energy consumption on the site as a result of an increase in the total square footage of structure to be served. Unnecessary, wasteful or inefficient uses of energy cannot be identified, because specific building designs have not been developed.

There would be an increase in peak-hour electrical demand resulting from elevator use, in addition to peak-hour demand characteristics of other uses in the structure. Other aspects of electrical and natural gas demand characteristics cannot be identified until more precise building designs are developed. Further evaluation of energy effects will be presented in the EIR.

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[1] Nathan Lee, San Francisco Clean Water Program, telephone conversation, August 3, 1981.

[2] George Nakagaki, Manager, City Distribution Division, San Francisco Water Department, telephone conversation, April 8, 1982.

No existing active solar energy collections installations would be affected as none are located in the immediate area north of the site. No other natural resources would be directly affected.

| 12. Hazards. Would the proposed project result in: | Yes | Maybe | No | N/A | Disc. |
|---|---|---|---|---|---|
| a. Increased risk of explosion or release of hazardous substances (e.g., oil, pesticides, chemicals or radiation), in the event of an accident, or cause other dangers to public health and safety? | | | X | | |
| b. Creation of or exposure to a potential health hazard? | | | X | | |
| c. Possible interference with an emergency response plan or emergency evacuation plan? | | | X | | |

It is not anticipated that the proposed project would result in any increased risk of explosion or release of hazardous substances. It is not known whether the project would affect the City's emergency response plan; further discussion will be provided in the project EIR.

| 13. Cultural. Would the proposed project: | Yes | Maybe | No | N/A | Disc. |
|---|---|---|---|---|---|
| a. Include or affect a historic site, structure, or building? | | X | | | X |
| b. Include or affect a known archaeological resource or an area of archaeological resource potential? | | | X | | X |
| c. Cause a physical change affecting unique ethnic or cultural values? | | | X | | X |

There is no evidence that the proposed project contains any historic structures or remains of archaeological or cultural significance. The 562-572 Mission Street building is rated "B" (Major Importance) by the Foundation for the Preservation of San Francisco's Architectural Heritage because of the "extremely early use of mushroom column drop panel construction, an important breakthrough in reinforced concrete design that is still utilized today. There is no other known use of this technique in San Francisco prior to the year in which the building was built."[1] The building was not rated architecturally significant in the Department of City Planning 1976 Architectural Inventory.

A survey of the historic architectural merits of the structure was made by Sally Woodbridge, architectural historian. Her report is on file with the Office of Environmental Review and available for review. Ms. Woodbridge concluded that documentation of the actual date of the first use of mushroom column drop panel construction is incomplete. According to the report, recognition of the current state of research and the certain use in the 562-572 Mission Street building warrants some importance, although Ms. Woodbridge concludes that the building facade is not of high architectural merit and the structural system is only visible in part of the interior. Therefore, the structure does not have enough architectural merit to warrant landmark status. The Landmarks Preservation Advisory Board does not distinguish between A- and B-rated buildings for purposes of preservation; that is, they have equal priority.

The project would demolish the 562-572 Mission Street building. In recognition of the possible historic merit of the structural system the project sponsor would document the type of construction through photographs and measured drawings.

## C. MITIGATION MEASURES:

| | Yes | No | Disc. |
|---|---|---|---|
| a. Are mitigation measures included in the project? | X | _ | X |
| b. Are other mitigation measures available? | Possible if need is identified | | |

The project sponsor has indicated his intention to incorporate mitigation measures which he considers to be reasonable and appropriate as they are identified during the course of the environmental review process for this project. A number of mitigation measures have been included in the project design to date:

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[1] Charles Hall Page & Associates, Inc. Splendid Survivors, San Francisco's Downtown Architectural Heritage, text by Michael R. Corbett, prepared for the Foundation for San Francisco's Architectural Heritage, San Francisco, California, 1979.

1. During construction and demolition, unpaved areas would be wetted at least twice a day to hold down dust.

2. The project sponsor and project contractor would meet with the Bureau of Engineering to determine the necessary feasible measures to reduce noise on the project site during pile driving.

3. Should evidence of cultural or historic artifacts of significance be found during project excavation, the Environmental Review officer and the President of the Landmarks Preservation Advisory Board would be notified. The project sponsor would select an archaeologist to help the Office of Environmental Review determine the significance of the find and whether feasible measures, including appropriate security measures, could be implemented to preserve or recover such artifacts. The Environmental Review Officer would then recommend specific mitigation measures, if necessary, and recommendations would be sent to the State Office of Historic Preservation. Excavation or construction which might damage the discovered cultural resources would be suspended for a maximum of four weeks to permit inspection, recommendations and retrieval, if appropriate.

4. A detailed foundation and structural design study would be conducted for the building by a licensed structural engineer and a geotechnical consultant. The project sponsor would follow the recommendations of these studies during the final design and construction of the project.

5. The project sponsor has agreed to have an analysis done which would include recommended noise insulation measures in the final building design. The project sponsor would follow the recommendations of the analysis to comply with all provisions of the San Francisco Building Code.

6. An acoustical analysis to show that the building would meet an interior CNEL requirement of less than 45 dBA with the windows closed would be performed; the exterior noise environment of the site could exceed a CNEL of 65 dBA at street level. The project would be constructed with reference to Title 25 Noise Insulation Standards of the California Administrative Code.

7. The building would be placed on concrete pile caps tied together with reinforced steel grade beams.

8. The project sponsor would have a complete geotechnical site study prepared by a California-licensed soils engineer and would follow the recommendations for any construction on the site.

| D. ALTERNATIVES: | Yes | No | Disc. |
|---|---|---|---|
| a. Were alternatives considered: | X | | |

1. The no-project alternative would retain the existing structures on the site.
2. The site could be used for a building of less density.
3. The Guiding Downtown Development alternative would address a project complying with the provisions of the July 1982 Department of City Planning document, Guiding Downtown Development.
4. The mixed-use office/housing alternative would consider the possibility of providing housing on-site.
5. A preservation alternative would preserve the historic material on the site.

These alternatives will be discussed in the EIR.

## E. MANDATORY FINDINGS OF SIGNIFICANCE

| | YES | NO | DISCUSSED |
|---|---|---|---|
| *1. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or pre-history? | | X | |
| *2. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? | | X | |
| *3. Does the project have possible environmental effects which are individually limited, but cumulatively considerable? (Analyze in the light of past projects, other current projects, and probable future projects.) | X | | |
| *4. Would the project cause substantial adverse effects on human beings, either directly or indirectly? | | X | |
| *5. Is there a serious public controversy concerning the possible environmental effect of the project? | | X | |

## F. ON THE BASIS OF THIS INITIAL STUDY:

______ I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared by the Department of City Planning.

______ I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because the mitigation measures, numbers ______, in the discussion have been included as part of the proposed project. A NEGATIVE DECLARATION will be prepared.

X I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Robert W. Passmore
Assistant Director of Planning -
Implementation
(Zoning Administrator)

for

Dean L. Macris
Director of Planning

Date: 12/7/82

# APPENDIX II. THE 1906 EARTHQUAKE, REINFORCED CONCRETE CONSTRUCTION IN SAN FRANCISCO, AND THE MUSHROOM COLUMN

Cement construction dates back to Roman use of finely ground, high-calcium limestone. Portland cement (a mixture of calcium and silicon oxides, with small amounts of aluminum, iron and magnesium oxides) was invented by Joseph Aspden in England in 1813.[1] Relatively little of this material was used in the United States up to 1883. Use expanded rapidly after 1898. Concrete consists of portland cement, water and sand, gravel, or other inert material or a combination of these materials. Some metal reinforcement appeared in Roman concrete, but systematic use of metal reinforcement in concrete did not occur until the latter part of the nineteenth century.

By 1904, reinforced concrete was in use in American dams, bridges, and in the foundations, walls, floors, columns and roofs of buildings. Engineer Edwin Thatcher wrote in 1904, "Concrete-steel columns for fireproof buildings and other purposes are gaining in favor, and are now quite largely used."[1]

A Captain in the US Army Corps of Engineers commented in 1904 that: "By far the most common use of reinforced concrete in the United States has been for floor slabs or arches supported by steel beams. This feature of the construction of buildings has been the subject of innumerable patents for so-called "systems," which, with few exceptions, have had little to recommend them from the point of view of structural design or fire resistance."[2]

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1. Thatcher, Edwin, "Concrete and Concrete-Steel," Trans. Am. Soc. Civil Eng., Int. Eng. Congress, 1904, Paper No. 70, Vol. 54E, pp. 425-428.
2. Sewell, John S., Concrete and Concrete-Steel in the U.S., Trans. Am. Soc. Civil Eng., Int. Eng. Congress, 1905, Paper No. 71, Vol. 54E, pp. 459-494.

According to "Splendid Survivors,"[1] "the first reinforced-concrete building in San Francisco was the Arctic Oilworks (now demolished) of 1888 designed by Ernest L. Ransome." The San Francisco Building Code did not permit all-reinforced concrete construction in the early years of this century. This has been attributed to lobbying by the brick layers' and masons' unions which feared that the less skilled cement workers would take over construction jobs. Reinforced concrete was allowed for foundations, floor slabs and intermediate beams in a structural steel frame.[2] After the 1906 earthquake, the few buildings with reinforced concrete floors, such as the Ferry Building,[3] were clearly in better shape than the brick buildings.

## The Effect of the 1906 Earthquake

At the time of the earthquake and fire, there was one reinforced concrete building just being constructed. "The owner had never received an official permit, but being confident of the merits of reinforced concrete, intended to abide by the issue in the courts. This structure was intended for storage purposes, and was to be six stories high. At the time of our great disaster, the second floor had been completed and forms were up for the third floor, also the curtain walls were up nearly to the third floor. The building was not subjected to any intense fire, but it was in a section of the city that suffered severely from the earthquake. An examination of

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1. Corbett, Michael R., Splendid Survivors, San Francisco Examiner, Div. of the Hearst Corp., San Francisco, 1979, p. 57; hereafter cited as Splendid Survivors.
2. Leonard, John B., "Concrete Construction Makes Great Headway on Pacific Coast," abstract of address at the NACU convention, New York City, December 1910, Concrete, Vol 11, February 1911, pp. 50-51.
3. Leonard, John B., "How Reinforced Concrete Stood Earthquake and Fire," The Architect & Engineer of Calif., Vol. 5, May 1906, unpaged.

the building a few days after the disaster showed that the brick curtain walls had suffered considerably, but that the reinforced concrete portion of the structure was entirely sound."[1]

In 1910 John B. Leonard wrote: "An inquiry among architects and engineers, together with my own observations, have failed to reveal any instance of failure on the part of reinforced concrete. Its general behavior has been such as to make it the most favorably considered material for the rebuilding of San Francisco by the investing public."[2] Public demand for reconstruction with reinforced concrete buildings brought about code changes in a matter of weeks after the earthquake.

## Girderless Construction

The mushroom column is one of a series of related reinforced concrete designs which made it possible to build "girderless" concrete floors at the beginning of this century. A 1908 handbook mentions several different systems of reinforcement for girderless construction.[3] Nationally, this type of construction was mainly used in factories, warehouses, assembly plants, garages, railroad terminals and store buildings having large floor areas with few large openings. The mushroom column was generally found to be less economical for office buildings than beam and girder construction.[4] The 562 Mission Building, built as a warehouse, fit into this pattern of applications.

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1. Leonard, John B., "Concrete Construction Makes Great Headway on Pacific Coast," Abstract of address at the NACU convention, New York City, December 1910, Concrete, Vol 11, February, 1911, pp. 50-51.
2. Leonard, John B., "How Reinforced Concrete Stood Earthquake and Fire," The Architect & Engineer of Calif., Vol. 5, May 1906, unpaged.
3. Turneaure, F. E. & E. R. Maurer, Principles of Reinforced Concrete Construction, 1st. Ed., Wiley, 1908, pp. 258-60.
4. Hool, George A., Reinforced Concrete Construction, Vol. 1, Fundamental Principles, 3rd. Ed. McGraw-Hill, New York, 1927, p. 228.

The first patent for a girderless, reinforced concrete design was applied for in 1901 by Norcross and issued in 1902. It was the prototype of systems devised in the first twenty years of this century which reinforced concrete in such a way that beams or girders were not required to support concrete floors, the loads being transmitted from the floor slab directly to the column. Many of these systems used columns which were wider at the top. These widened tops were often referred to as "mushrooms."

Turner claimed to have conceived the girderless design concept in 1898, but failed to prove his claim in patent court.[1] The first building with columns of the Turner design was built in 1906. Some design handbooks reserved the term "mushroom column" for Turner's design, others used the term generically. Turner considered his system to be significantly different from those of Norcross and others,[2] although the courts and other engineers did not agree with him. From 1906 to 1909, Turner was involved with the construction of over 17 million square feet of mushroom column supported reinforced concrete slab floors.[3]

The basic Norcross idea was a system of reinforcing rods or wires in the concrete slab placed in such a way as to transfer the load to columns 16-22 ft. apart. The mushroom and other widened column tops served to increase the slab's bearing area through which load is resisted. The depth of the top of the column helps to resist shear forces and prevents structural

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1. Drum v. Turner, Circuit Court of Appeals, Eighth Circuit, 219 Fed. Rptr., December 10, 1914, No. 4165.
2. Turner, C. A. P. letter to Concrete-Cement Age, Vol. 1, August 1912, pp. 66-67.
3. Turner, C. A. P., Advance in Reinforced-Concrete Construction: An Argument for Multiple-Way Reinforcement in Floor-Slabs, Engineering News, 61:178-181 (1909); Anon., A Flat Slab Reinforced-Concrete Street Railway Bridge, St. Paul, Minn., Engineering News, 62:694-695 (1909).

failure through puncture. Puncture failure (shear failure) was a problem in early concrete structures.

In 1912, over a million sq. ft. of girderless "Akme" system floors were under construction in seven buildings.[1] This system was often used with "drop-panel" design[2] in which the lower face of the slab is thickened over each columnhead by lowering the bottom face of the slab. The 1914 Chicago Building Ordinance required reinforced concrete columns to be larger at the top but did not call them mushroom columns, describing them as follows: "The column capital shall be defined as the gradual flaring out of the top of the column without any marked offset."[3]

## Post-Earthquake San Francisco Construction

In July of 1907, Hall stated that "Within the fiscal year of June, just passed, the erection of seventy-eight reinforced concrete buildings has been commenced in the burned-over area of the April, 1906, fire."[4] The five-story Flannery Building, at Geary and Market Streets (demolished in 1964), was the first reinforced concrete building completed and occupied in San Francisco.[5] At Fourth and Market Streets three shifts worked on the million dollar, 9-story Pacific building designed by C. F. Whittlesey,

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1. Anon., "The "Akme" System," Concrete-Cement Age, Vol. 1, October 1912, p. 54.
2. Hool, George A., Concrete Engineers' Handbook, Hill, London, 1918, p. 467.
3. As quoted in Anon., "Design of Reinforced Concrete Flat Slabs, According to New Chicago Building Ordinance," Concrete-Cement Age, Vol. 5, Nov. 1914, p. 194.
4. Hall, William H., "The Rebuilding of San Francisco -- Reinforced Concrete Buildings," The Architect and Engineer of Calif., July 1907, p. 61.
5. H.F.S., "Reinforced Concrete Construction in San Francisco," Concrete, Vol. 7, February, 1907, pp. 34c-34d.

labelled "the largest reinforced concrete building in the world," by the American Pacific Company[1] (Heritage rated A).[2]

The Sheldon Building on the southeast corner of Market and First Streets, designed by Benjamin G. McDougall, architect and John B. Leonard, consulting engineer, both important early designers of reinforced concrete structures in San Francisco, was built in 1907.[3] Other 1907 buildings were two buildings designed by George A. Applegarth, the Phoenix Building at 220-228 Grant Avenue (B)[4], and the St. Andrew Hotel at 438 Post St. (B), as well as Nathaniel Blaisdell's Oscar Luning Building on the northwest corner of Kearny and Maiden Lane (B).[4]

South of Market, three reinforced concrete buildings were under construction in 1907: the eight-story Bride Investment Company Building on Mission Street near Third Street (demolished for Moscone Convention Center construction), the Morton L. Cook building on the west corner of Second and Minna Streets (140 Second St., concrete slab floors only), and the E. B. Pond building on the corner of Mission and North Anthony Sts. (now a parking lot).

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1. Leonard, John B., "The Use of Reinforced Concrete in San Francisco and Vicinity," Arch. & Engr. of Calif., 24:42-61 (1911).
2. The Foundation for San Francisco's Architectural Heritage evaluated buildings in the downtown area of San Francisco on a scale of "A" = individually the most important buildings, distinguished by "outstanding qualitites of architecture, historical values, and relationship to the environment;" B = "buildings which tend to stand out for their overall quality rather than for any particular characteristics;" C = "provide the setting for more important buildings and...add visual richness and character to the downtown area;" D = "insignificant...by virture of origincal design, or more frequently, insensitive remodeling." Quotes from Splendid Survivors, pp. 12-13. Capital letters in parentheses following the name of a building indicate the above ratings.
3. Splendid Survivors, p. 111.
4. Op. cit., p. 5.

# APPENDIX II

A system for girderless construction was exhibited in Los Angeles in 1908 or 1909.[1] In 1909, a Los Angeles building under construction for F. W. Brown, a wholesale chemical dealer, was described as differing from "the several 'mushroom types' in that in the latter the reinforcing rods are bent into the head and neck of the column, while in the system described here, the base of the column is made in the ordinary way with circular wrapped reinforcing and rods started from dowels secured to the top of the footing, while the head of the column has reinforcing projecting through the column from either side, making cantilever arms in six directions and the floor slab is supported on these cantilever brackets..."[2] The mushroom system was apparently well known in Los Angeles by 1909.

It is not known when the first example of one of the structural systems eliminating the need for beams or girders in a concrete floor was built in San Francisco. Girderless construction was most likely to be used in warehouses and other buildings unlikely to be reported in professional journals. A 1925 reinforced concrete warehouse in San Diego was placed on the National Register of Historic Places with its nomination application noting that it was an early use of the system in Southern California. (This was not the primary reason for its nomination.) Table A-1, p. A-35, lists a number of San Francisco structures with mushroom columns.

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1. Cressy, Charles, "Girderless Concrete Floors," Arch. & Engr. of Calif., 56:85-88 (1919).
2. E.P.B., "Reinforced Concrete Store and Loft of Unique Construction," Concrete, Vol. 9, September 1909.

The 562 Mission building, built in 1919, orignally received a B rating from Heritage in the belief that it represented the earliest use of mushroom columns in San Francisco.[1] As indicated in Table A-1, both the 400 Second St. Blue Cross Building and the 888 Brannan St. Gift Center Building have mushroom columns and were built two years earlier, in 1917. After the discovery of the Blue Cross and Gift Center Buildings, the rating of the 562 Mission St. Building was revised to "C" by Heritage.

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1. Corbett, Michael, Heritage Foundation, telephone conversation, July 15, 1983.

# APPENDIX II

## Table A-1. Buildings in the Downtown San Francisco Area Using Mushroom Column/Flat Slab Construction[1]

| | |
|---|---|
| 1917 - 400 Second St.<br>S.W. Corner Second and Harrison Sts. | A reinforced concrete loft structure designed in 1916 by W.H. Crim Jr. for the Pacific Coast Envelope Company and built by Palmer and Petersen, Contracting Engineers in 1917. Later used as a furniture warehouse for the City of Paris department store, it is now known as the Blue Cross Building and is being renovated for use as an office building. |
| 1917 - 888 Brannan St.<br>N.E. corner Brannan and Eighth Sts. | A large warehouse designed by Maurice Couchot and built for the National Carbon Company, a division of Eveready Battery Company. Currently undergoing renovation as part of the Gift Center Complex, Kaplan, McLaughlin and Diaz, Architects. |
| 1919 - 562 Mission St.<br>N. side Mission St./E. of Anthony St. | A reinforced concrete loft building, known as the D.N. & E. Walter Building, is used for offices. It would be demolished if Lincoln Plaza were built. |
| 1923 - 490 Second St.<br>S.W. corner Second and Brannan Sts. | The Baker-Joslyn Company Building. |
| 1924 - 190 Ninth St.<br>N.W. corner Ninth and Howard Sts. | Buit by the Crovo family to house the Grey Bar Electric Co. Now used by Bowne of San Francisco Inc., corporate and legal printers. |
| 1925 - 640 Second St. | A concrete warehouse built by H.C. Baumann for the L.A. Norris Company. W.H. Ellison-Earle Russell Assoc. were the consulting engineers. |
| 1927 - 215 Fremont St.<br>S.E. corner Fremont and Howard Sts. | Built for the California Packing Company, which later became part of Del Monte Foods. Renovated in the late 1970's for use as an office building. |

continued

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[1] This is a representative list of flat slab buildings with mushroom columns in the Downtown, South of Market Area and is not a complete list of all such buildings.

Table A-1. Buildings in the Downtown San Francisco Area Using Mushroom Column/Flat Slab Construction

| | |
|---|---|
| 1928 - 1380 Howard St.<br>N.E. corner Howard and Tenth Sts. | Built originally for the Haas Candy Factory this now vacant structure is leased for office space. |
| 1930 - 1360 Mission St. | Built as a warehouse and used by the U.S. Army for that purpose during the Second World War; now houses the California State Department of Social Services. |
| 1937 - 1355 Market St.<br>S. side Market St. between Ninth and Tenth Sts. | The Mechandise Mart Building, a large, 11-story building, is entirely flat slab construction. |
| 1938 - Transbay Terminal | Elevated traffic arteries connecting the terminal to Highway 80 are drop-panel mushroom column construction. |

Source: Bendix Environmental Research, Inc.

## APPENDIX III. SHADOW ANALYSIS

### Methodology

The base map used for the shadow analysis is at a scale of 1 inch to 50 feet. Block dimensions and street widths were taken from San Francisco City Engineer's Office records and lot sizes and building dimensions are derived from San Francisco City Assessor's Office maps. Visual inspections were made to determine the placement and size of trees and planted areas.

Shadows were calculated at one hour intervals from 10 am to 2 pm, four times of the year: March 21, the spring equinox[1]: June 22, the summer solstice; September 24, the fall equinox; and December 22, the winter solstice. June and September diagrams have been adjusted for Pacific Daylight Time (P.D.T.) by subtracting one hour from Standard Time. December and March shadows are calculated using Pacific Standard Time (P.S.T.).

Solar altitudes and azimuths, the height and bearing of the Sun, were determined using the "Bennett Sun Angle Chart" for 38° North latitude. Corrections were made to account for the varying difference between the time as calculated on Earth and actual solar time. Solar time is the actual time based on the Earth's orbit around the Sun and the 24-hour rotation of the planet. Because of the Earth's eliptical orbit around the Sun, the difference between March 21 and September 24, the two equinoctial months, differ by as much as 15 minutes.[2] For example, noon on March 21 is equivalent to 11:53 solar time while noon on September 24 is equivalent to 12:07 pm solar time.

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[1] Solstice and equinox refer to the latitudinal position of the Sun over the Earth. The solstices are the northernmost and southernmost extensions of the Sun in the sky, summer and winter respectively. The equinox occurs when the Sun is halfway between the north and south poles of the Earth, over the equator. This marks the start of spring and fall.

[2] Olgyay, Viktor. Design With Climate. Princeton, New Jersey: Princeton University Press, 1963.

Included in the analysis are project shadows, shading from existing development (including 71 Stevenson, approved), and shadows from the proposed 49 Stevenson project, assuming full site coverage at 49 Stevenson by a building 302 ft. high. Shading from existing development includes the two 80 ft. tall buildings currently on the proposed project site. Only new shadow attributable to the project is shown on the diagrams. The tower designs of both 71 Stevenson and Lincoln Plaza feature numerous setbacks and stepped shapes; projected on existing structures and their respective shadows, the Lincoln Plaza shadow patterns are quite complex.

Table A-2 compares the square footage of sun and shade on the 71 Stevenson Plaza and Lincoln Plaza.

Table A-2. Areas of Sunlight and Shade on Lincoln and Stevenson Plazas in sq. ft (percentages of the total area of each plaza are in parentheses).

| | LINCOLN PLAZA Total Area 14,500 sq. ft. | | | STEVENSON PLAZA Total Area 2,600 sq. ft. | | |
|---|---|---|---|---|---|---|
| Date/Time | Sunlight | Pre-existing Shade | Shade from Lincoln Plaza | Sunlight | Pre-existing Shade | Shade from Lincoln Plaza |
| Mar 21 10 AM | 11,400 (79) | 0 (0) | 3,100 (21) | 0 (0) | 2,500 (96) | 100 (4) |
| Mar 21 11 AM | 12,800 (88) | 0 (0) | 1,700 (12) | 500 (19) | 2,100 (81) | 0 (0) |
| Mar 21 Noon | 12,500 (86) | 400 (3) | 1,600 (11) | 1,000 (38) | 1,600 (62) | 0 (0) |
| Mar 21 1 PM | 9,000 (62) | 4,200 (29) | 1,300 (9) | 1,200 (46) | 1,400 (54) | 0 (0) |
| Mar 21 2 PM | 2,900 (20) | 10,600 (73) | 1,000 (7) | 1,100 (42) | 1,500 (58) | 0 (0) |
| June 22 10 AM | 5,050 (35) | 0 (0) | 9,450 (65) | 0 (0) | 2,300 (88) | 300 (12) |
| June 22 11 AM | 6,000 (41) | 0 (0) | 8,500 (69) | 0 (0) | 1,150 (44) | 1,450 (56) |
| June 22 Noon | 11,850 (82) | 0 (0) | 2,650 (18) | 0 (0) | 0 (0) | 2,600 (100) |
| June 22 1 PM | 12,000 (83) | 0 (0) | 1,500 (17) | 2,300 (88) | 250 (10) | 50 (2) |
| June 22 2 PM | 13,700 (94) | 0 (0) | 800 (6) | 2,350 (90) | 250 (10) | 0 (0) |
| Sept 24 10 AM | 9,400 (65) | 0 (0) | 5,100 (35) | 0 (0) | 2,600 (100) | 0 (0) |
| Sept 24 11 AM | 11,950 (82) | 0 (0) | 2,550 (18) | 0 (0) | 2,600 (100) | 0 (0) |
| Sept 24 Noon | 12,600 (87) | 0 (0) | 1,900 (13) | 950 (37) | 1,650 (63) | 0 (0) |
| Sept 24 1 PM | 12,000 (83) | 900 (6) | 1,600 (11) | 1,150 (44) | 1,450 (56) | 0 (0) |
| Sept 24 2 PM | 7,800 (54) | 5,600 (39) | 1,100 (7) | 1,200 (46) | 1,400 (54) | 0 (0) |
| Dec 22 10 AM | 12,500 (86) | 0 (0) | 2,000 (14) | 800 (31) | 1,800 (69) | 0 (0) |
| Dec 22 11 AM | 11,800 (82) | 1,350 (9) | 1,350 (9) | 800 (31) | 1,800 (69) | 0 (0) |
| Dec 22 Noon | 6,200 (43) | 7,000 (48) | 1,300 (9) | 800 (31) | 1,800 (69) | 0 (0) |
| Dec 22 1 PM | 4,250 (29) | 8,600 (60) | 1,650 (11) | 0 (0) | 2,600 (100) | 0 (0) |
| Dec 22 2 PM | 2,700 (19) | 10,200 (70) | 1,600 (11) | 0 (0) | 2,600 (100) | 0 (0) |

Source: Bendix Environmental Research, Inc.

# APPENDIX IV. WIND IMPACT ANALYSIS

Three types of data are shown on the wind diagrams. The circles indicate measurement locations. Wind direction is indicated by a "vane". The predicted average windspeed (ground level) from May through September, the five windiest months of the year, is given in miles per hour. It should be remembered that the wind speeds shown are average wind speeds; actual wind speeds would be expected to be greater than the predicted speed approximately 50% of the time and less than the predicted speed approximately 50% of the time. The degree of change in windspeed caused by the project is symbolized by shading within the circle, as defined in the figure legends. The glass atrium entry shown in the following figures has been removed as part of the final design of Lincoln Plaza. The windspeeds shown in the diagrams, however, are unchanged. Table A-3 lists the development scenarios tested in the wind tunnel study. A description of wind study methodology is included in the wind tunnel study available for review at the San Francisco Office of Environmental Review, 450 McAllister St., 5th floor, San Francisco, CA 94102.

Table A-3. Development Scenarios Tested in Wind Tunnel

1. Existing Wind*
2. 71 Stevenson project alone
3. 71 Stevenson with Lincoln Plaza*
4. 71 Stevenson with 49 Stevenson
5. 71 Stevenson with Lincoln Plaza and 49 Stevenson
6. Lincoln Plaza and 49 Stevenson
7. Lincoln Plaza alone*
8. Lincoln Plaza alone,** previous design

*Denotes scenarios for which results appear in this document. Results of other senarios do not appear because no significant impact was found and/or they are in the EIR for the 71 Stevenson project or will appear in the EIR for the 49 Stevenson project. Full wind tunnel study and results are available for review at the S.F. Department of City Planning, Office of Environmental Review 450 McAllister St., 5th Floor, S.F., CA 94102.

**Scenario 8 is not included because this design is no longer relevant.

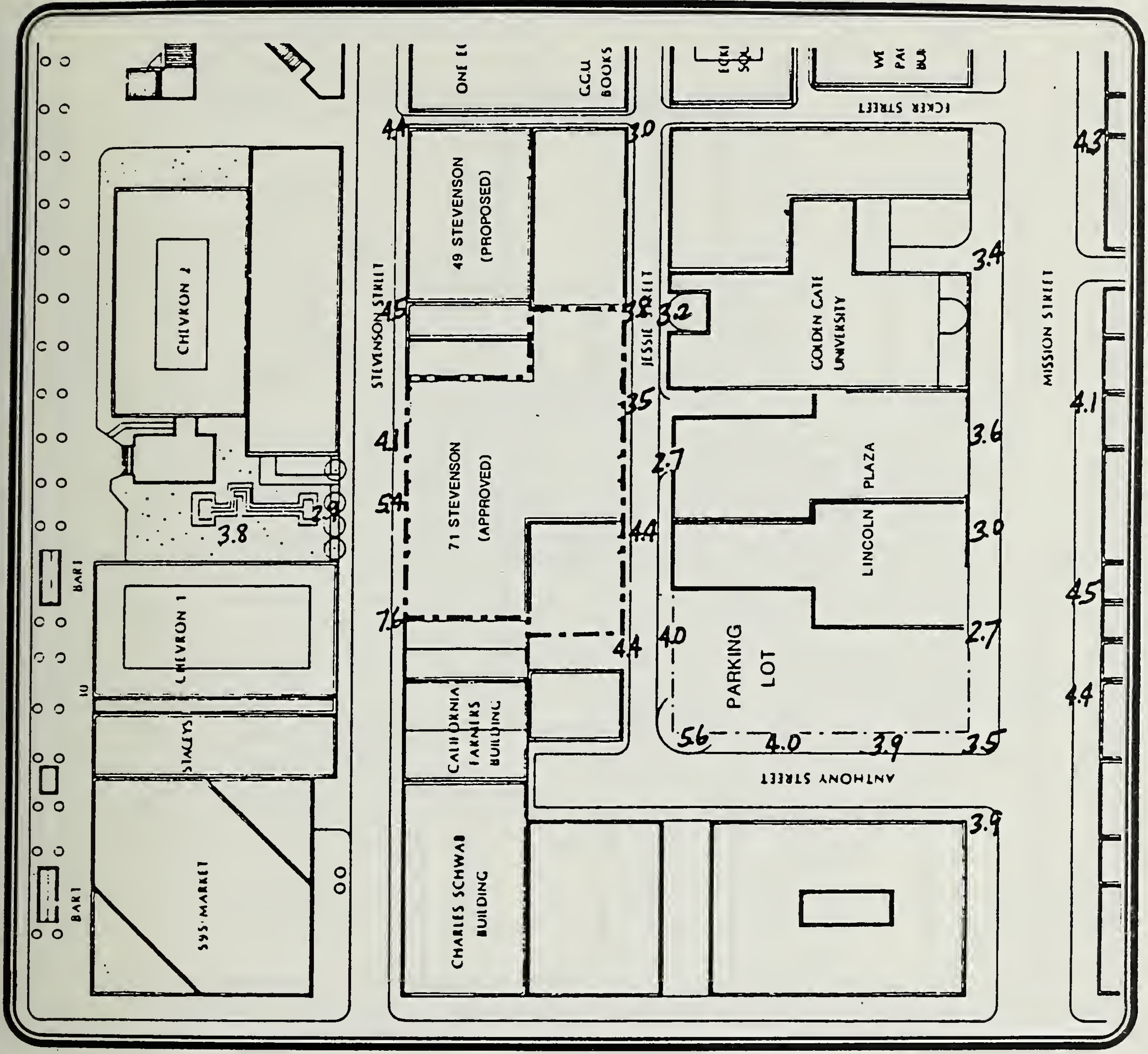


Figure A-1

Wind Impact Analysis - Southwest Wind

Existing Setting

Lincoln Plaza

Wind Direction

N

0 100
FEET
Scale

Hand Written Numbers = Wind Speeds in MPH

Source: Bendix Environmental Research, Inc. and Environmental Science Associates

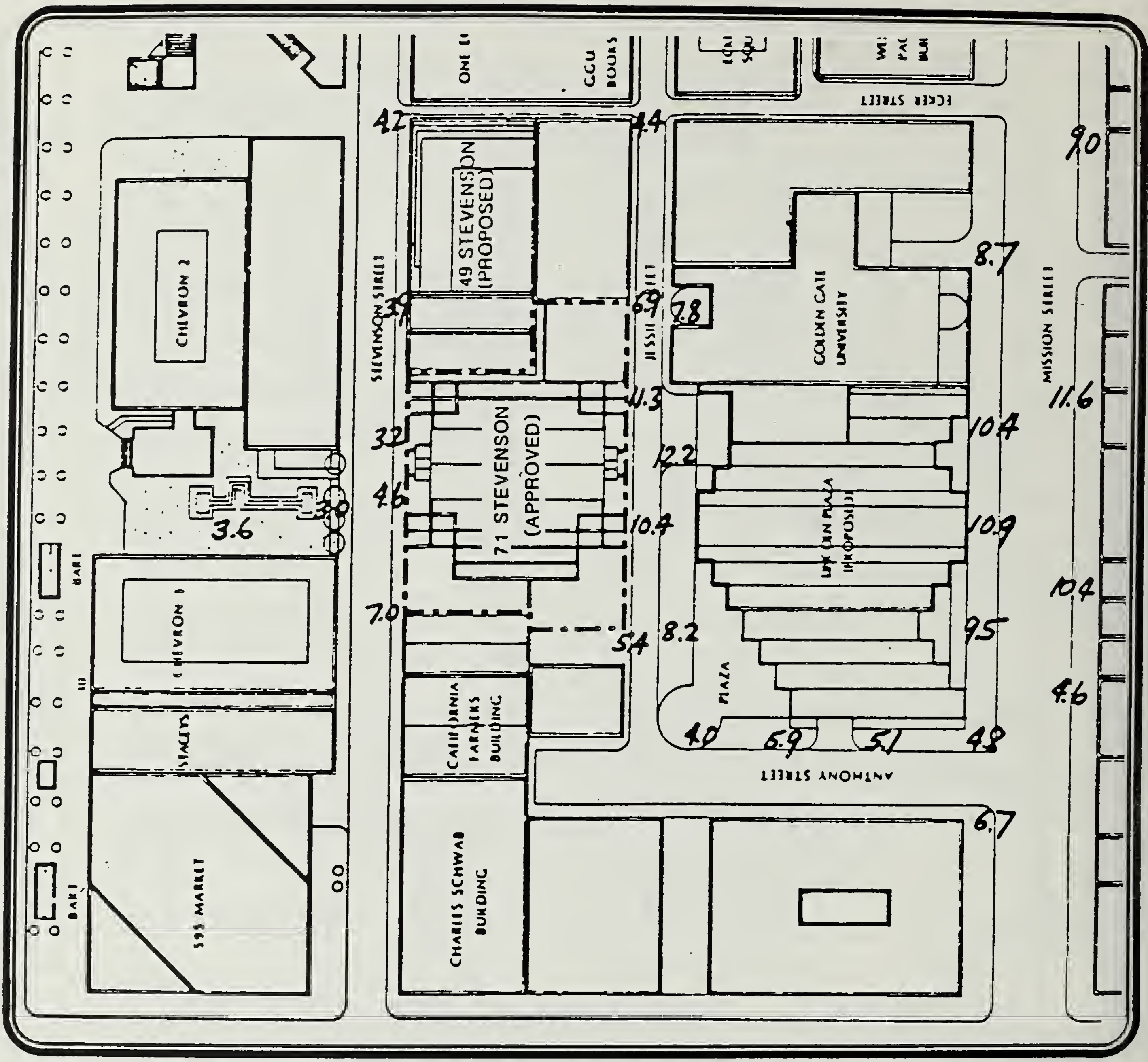


Figure A-2

Wind Impact Analysis - Southwest Wind

Lincoln Plaza alone

Wind Direction

N

0 100
FEET
Scale

Hand Written Numbers = Wind Speeds in MPH

Source: Bendix Environmental Research, Inc. and Environmental Science Associates

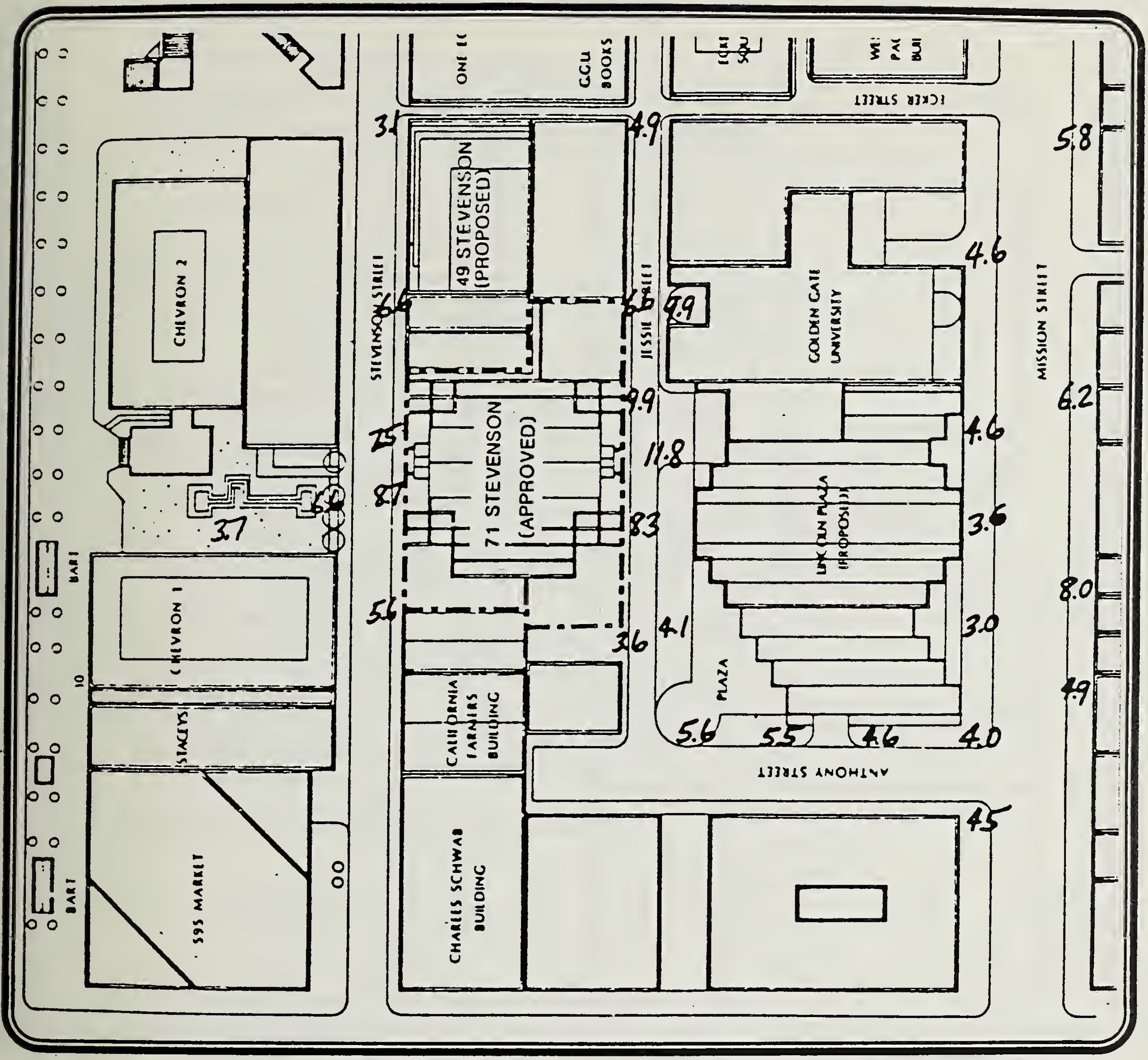


Figure A-3

Wind Impact Analysis - Southwest Wind

71 Stevenson alone

Wind Direction

N

0 100
FEET
Scale

Hand Written Numbers = Wind Speeds in MPH

Source: Bendix Environmental Research, Inc. and Environmental Science Associates

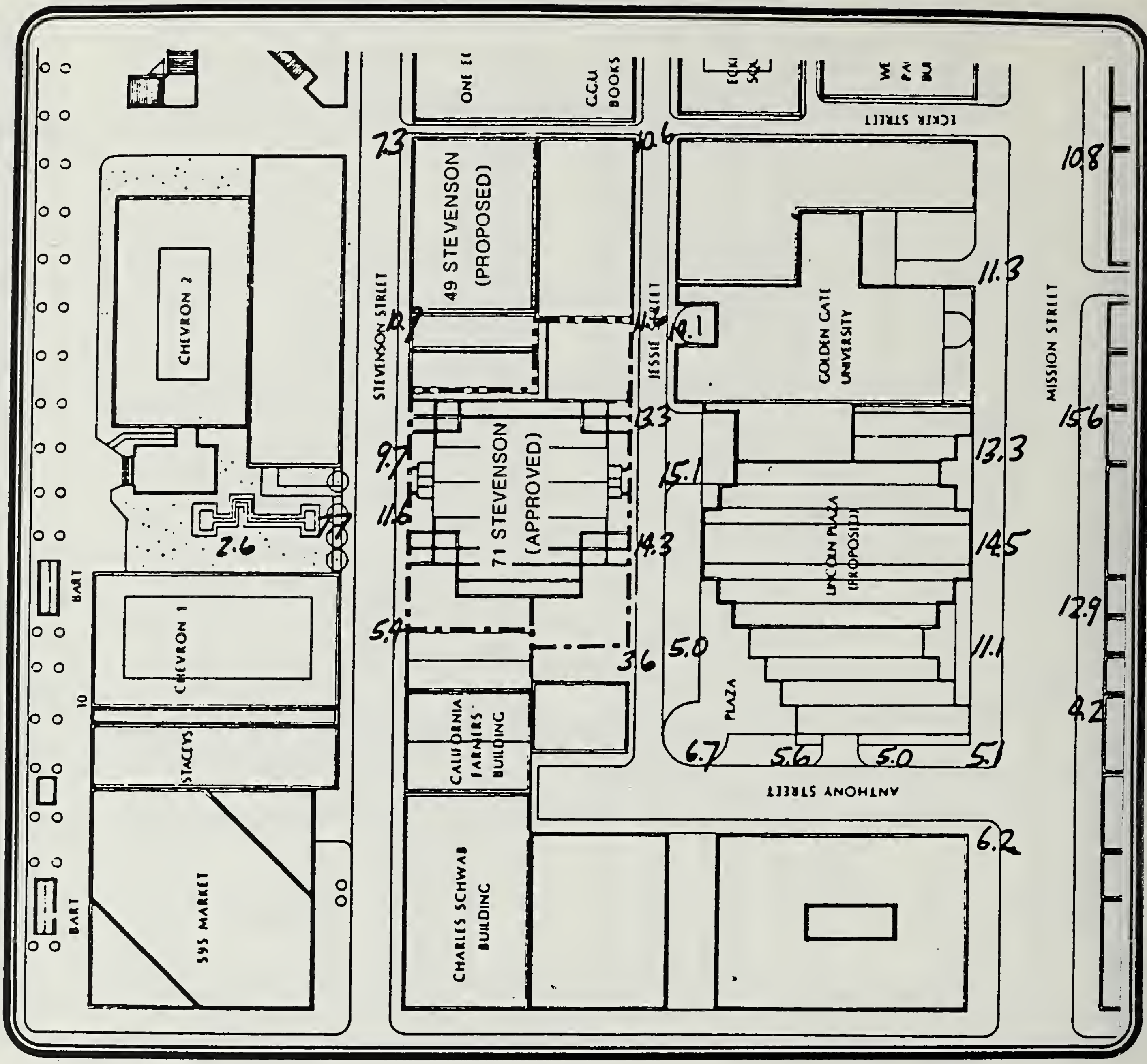


Figure A-4

Wind Impact Analysis - Southwest Wind

71 Stevenson with Lincoln Plaza

Hand Written Numbers = Wind Speeds in MPH

Source: Bendix Environmental Research, Inc. and Environmental Science Associates

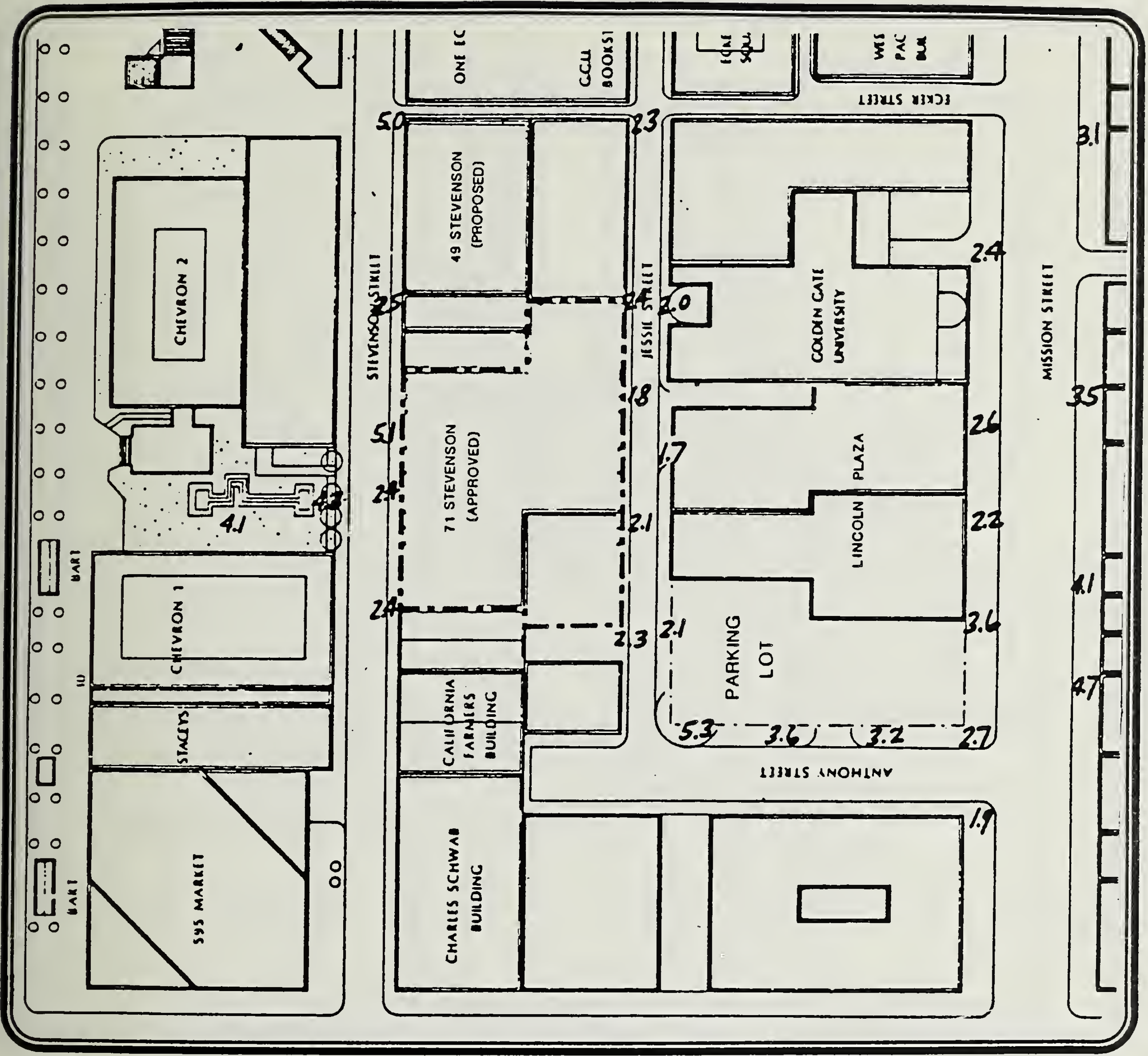


Figure A-5

Wind Impact Analysis - West Wind

Existing Setting

Lincoln Plaza

Hand Written Numbers = Wind Speeds in MPH

Source: Bendix Environmental Research, Inc. and Environmental Science Associates

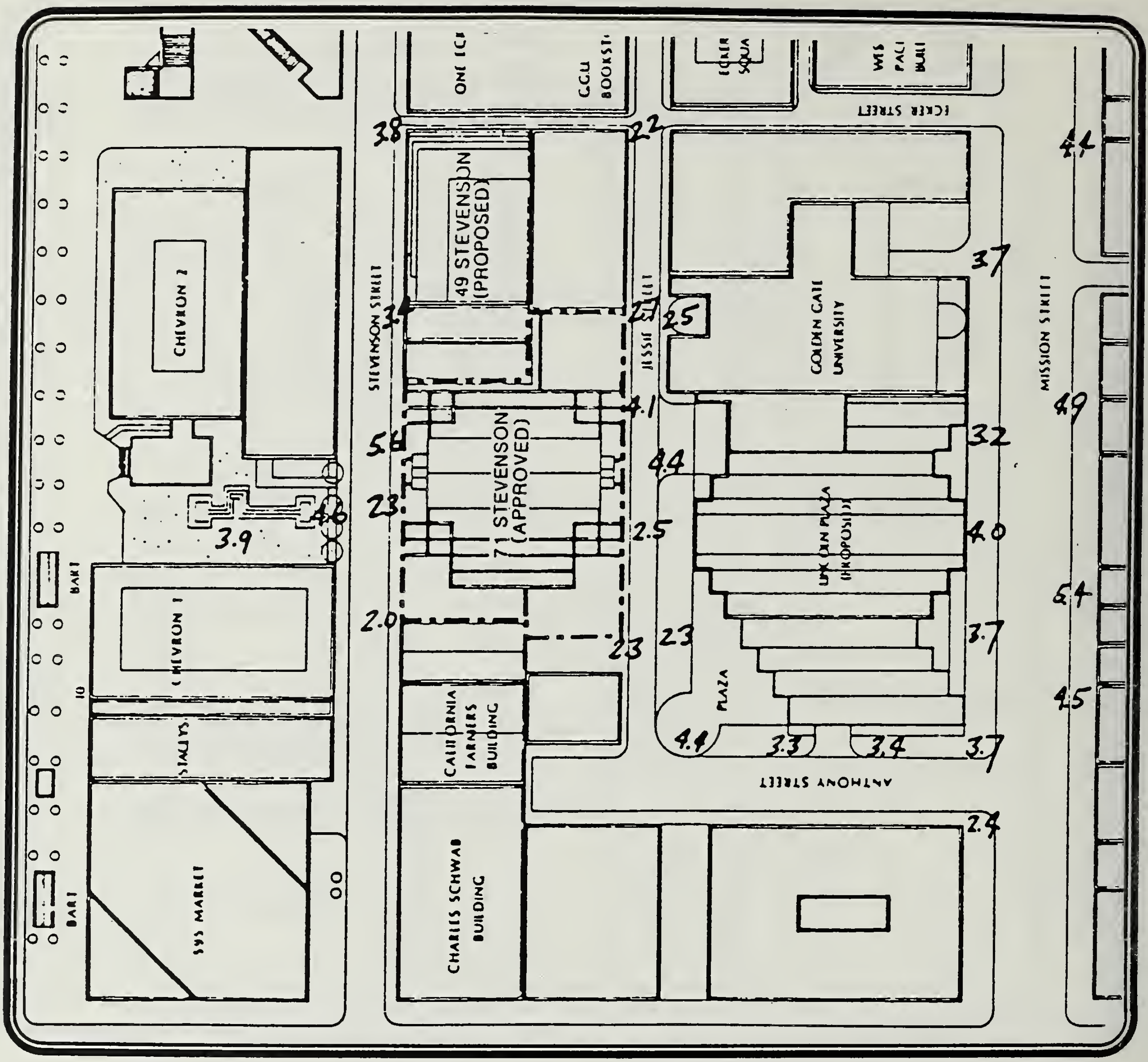


Figure A-6
Wind Impact Analysis - West Wind
Lincoln Plaza alone

Wind Direction

N

0 100
FEET
Scale

Hand Written Numbers = Wind Speeds in MPH

Source: Bendix Environmental Research, Inc. and Environmental Science Associates

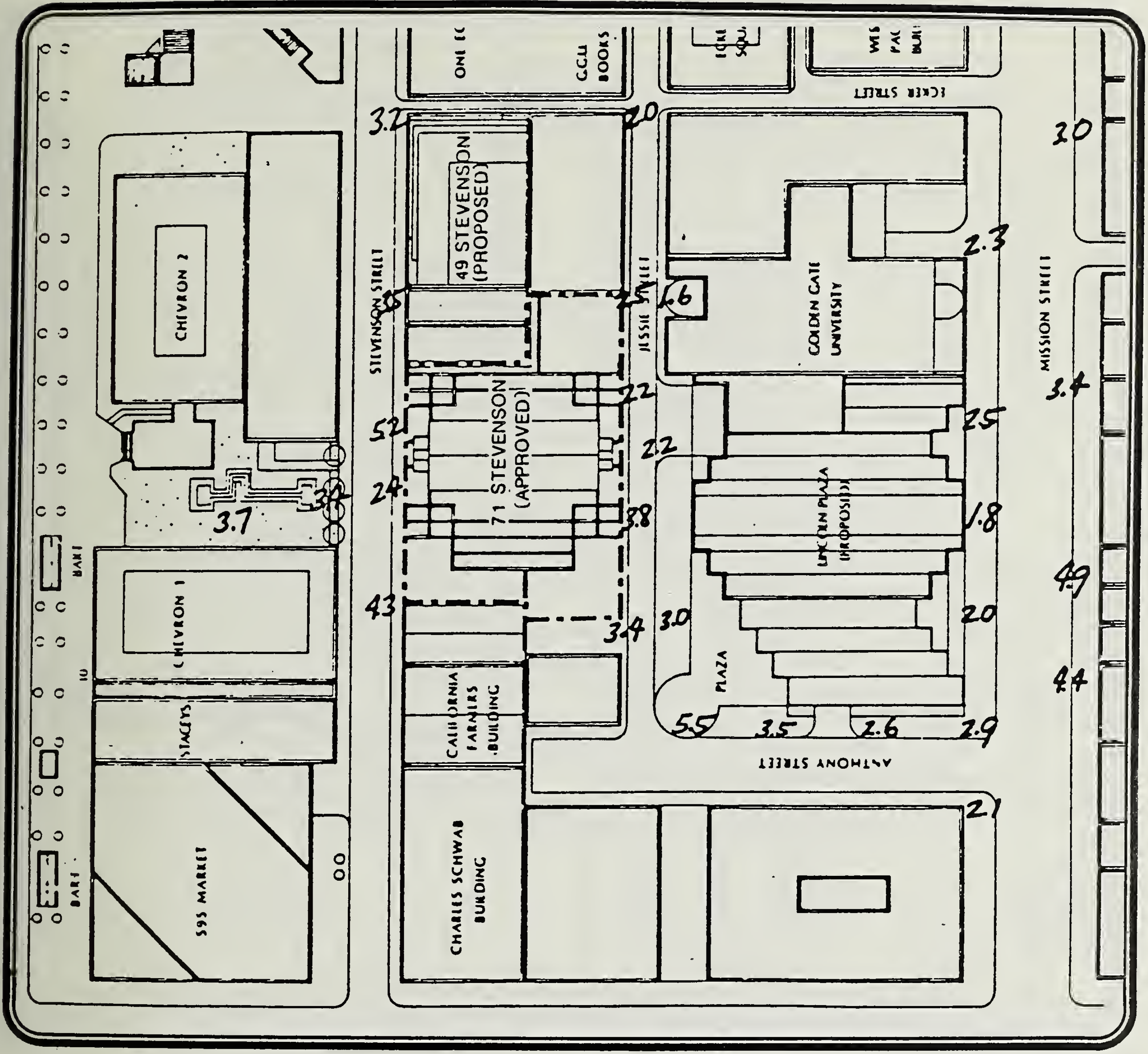


Figure A-7

Wind Impact Analysis - West Wind

71 Stevenson alone

Wind Direction

N

0 100
FEET

Scale

Hand Written Numbers = Wind Speeds in MPH

Source: Bendix Environmental Research, Inc. and Environmental Science Associates

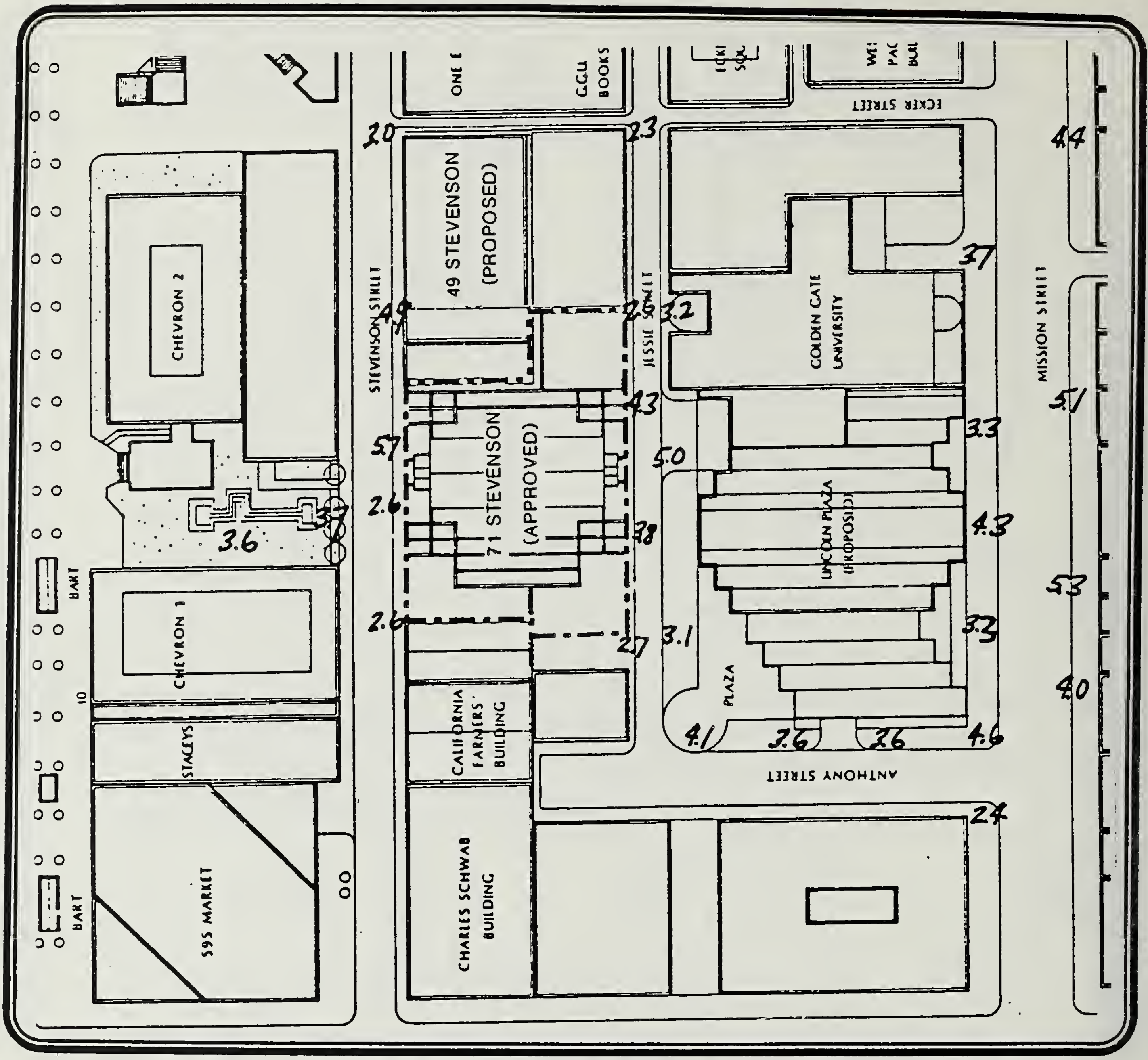


Figure A-8

Wind Impact Analysis - West Wind

71 Stevenson with Lincoln Plaza

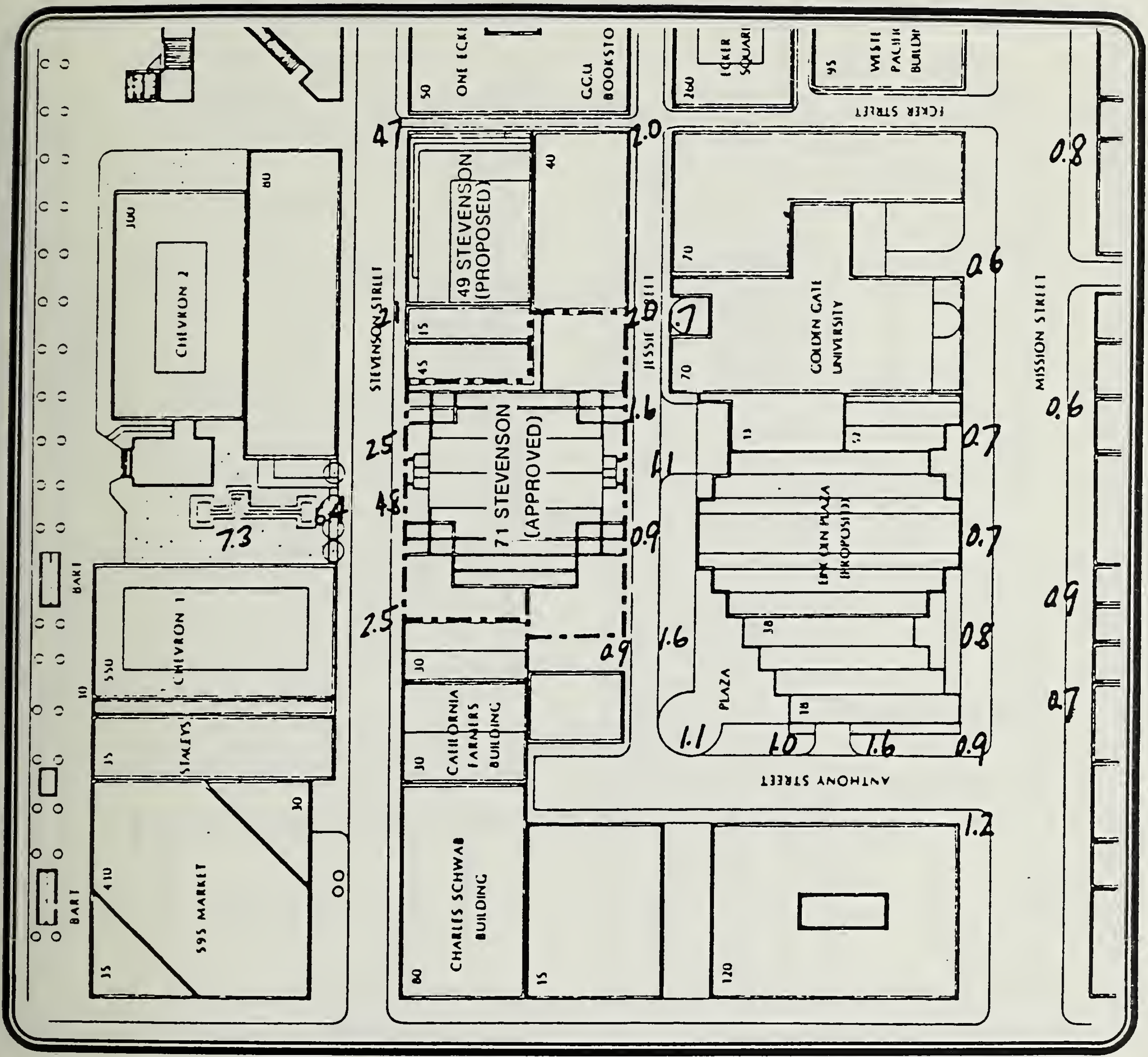
Wind Direction

N

0 100
FEET
Scale

Hand Written Numbers = Wind Speeds in MPH

Source: Bendix Environmental Research, Inc. and Environmental Science Associates



➡ Wind Direction

N

Figure A-9

Wind Impact Analysis - Northwest Wind

Existing Setting

Lincoln Plaza

0 100
FEET
Scale

Hand Written Numbers = Wind Speeds in MPH

Source: Bendix Environmental Research, Inc. and Environmental Science Associates

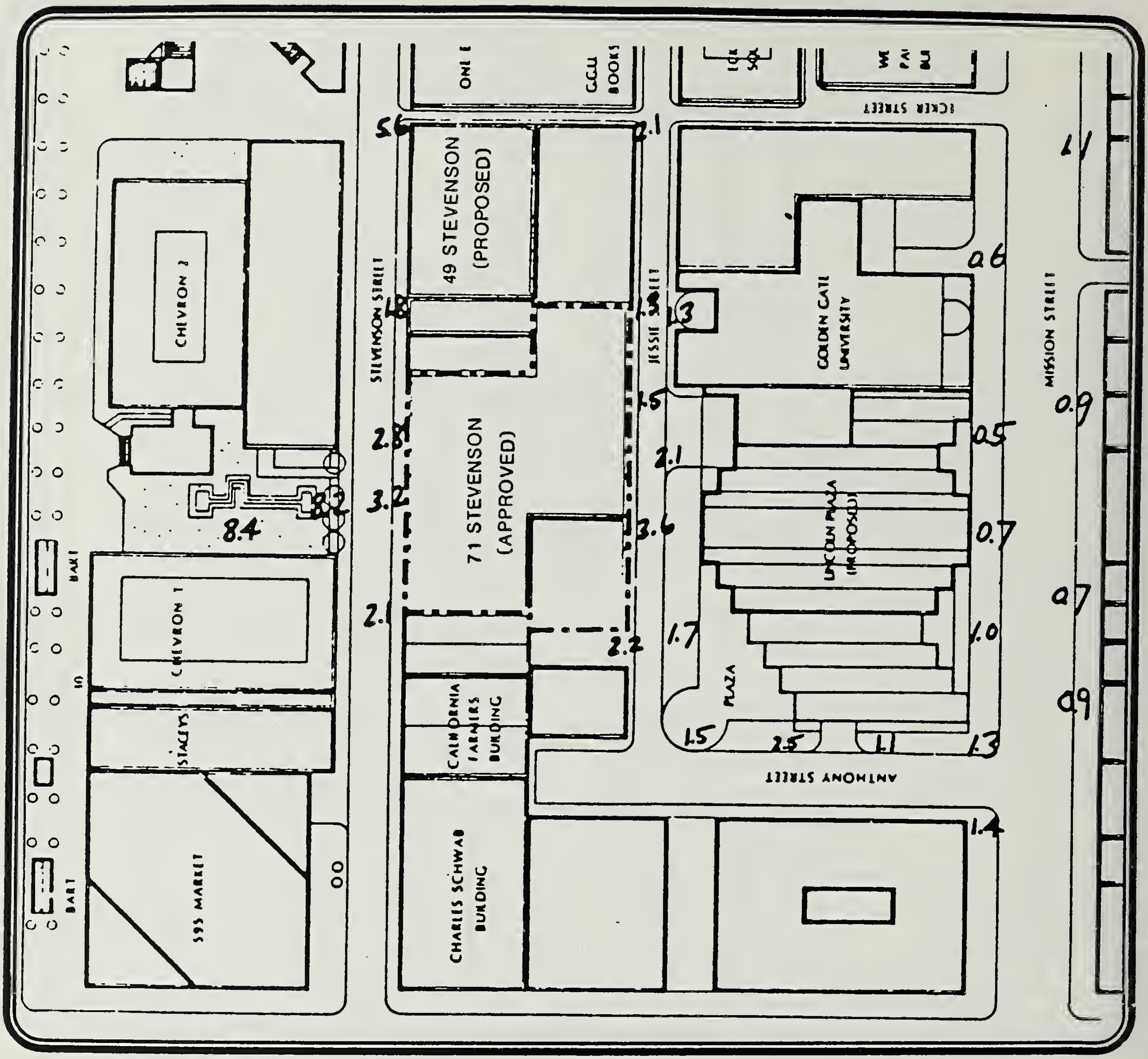


Figure A-10

Wind Impact Analysis - Northwest Wind

Lincoln Plaza alone

➡ Wind Direction

N

0 100 FEET

Scale

Hand Written Numbers = Wind Speeds in MPH

Source: Bendix Environmental Research, Inc. and Environmental Science Associates

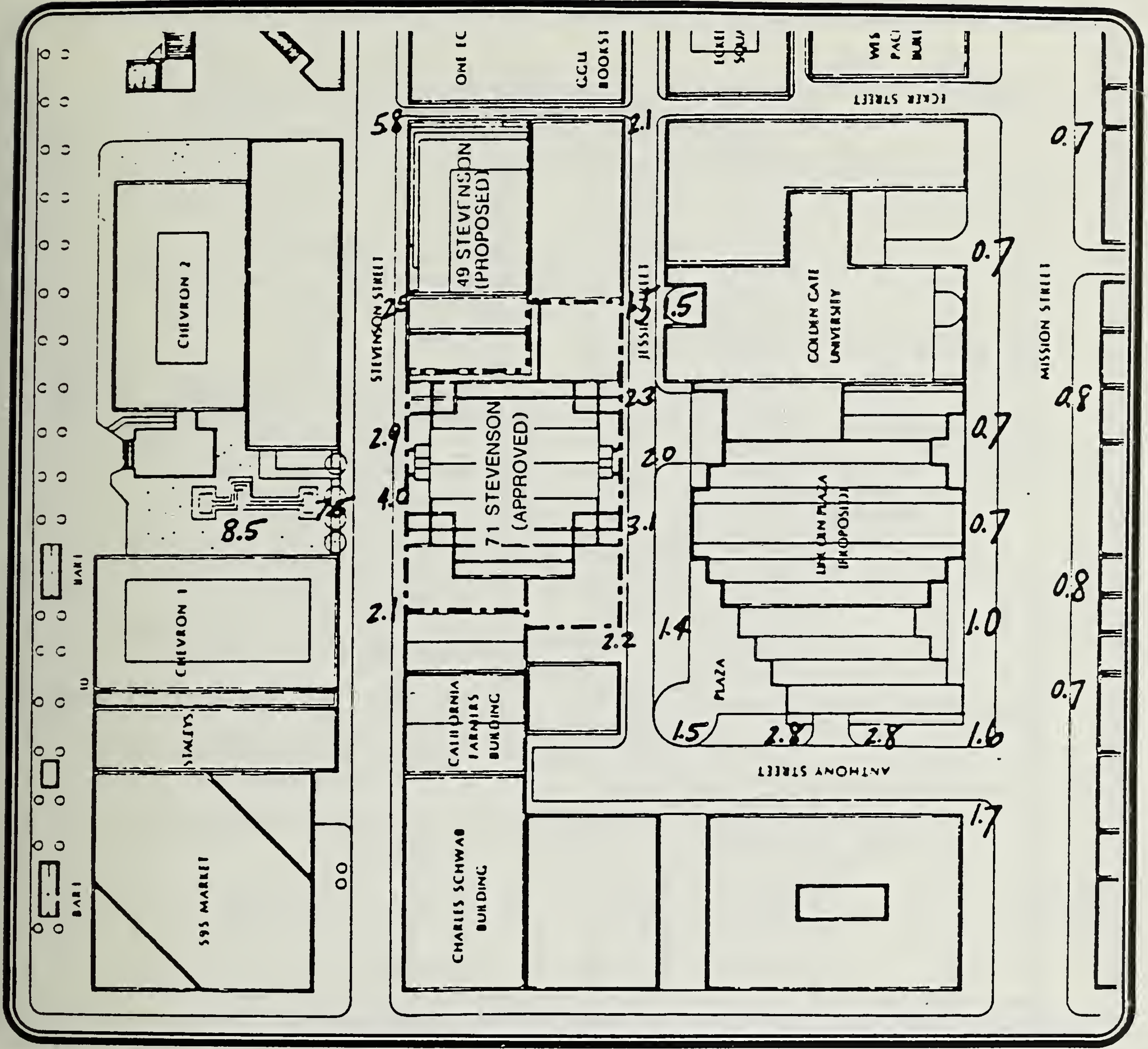


Figure A-11

Wind Impact Analysis - Northwest Wind

71 Stevenson alone

Hand Written Numbers = Wind Speeds in MPH

Source: Bendix Environmental Research, Inc. and Environmental Science Associates

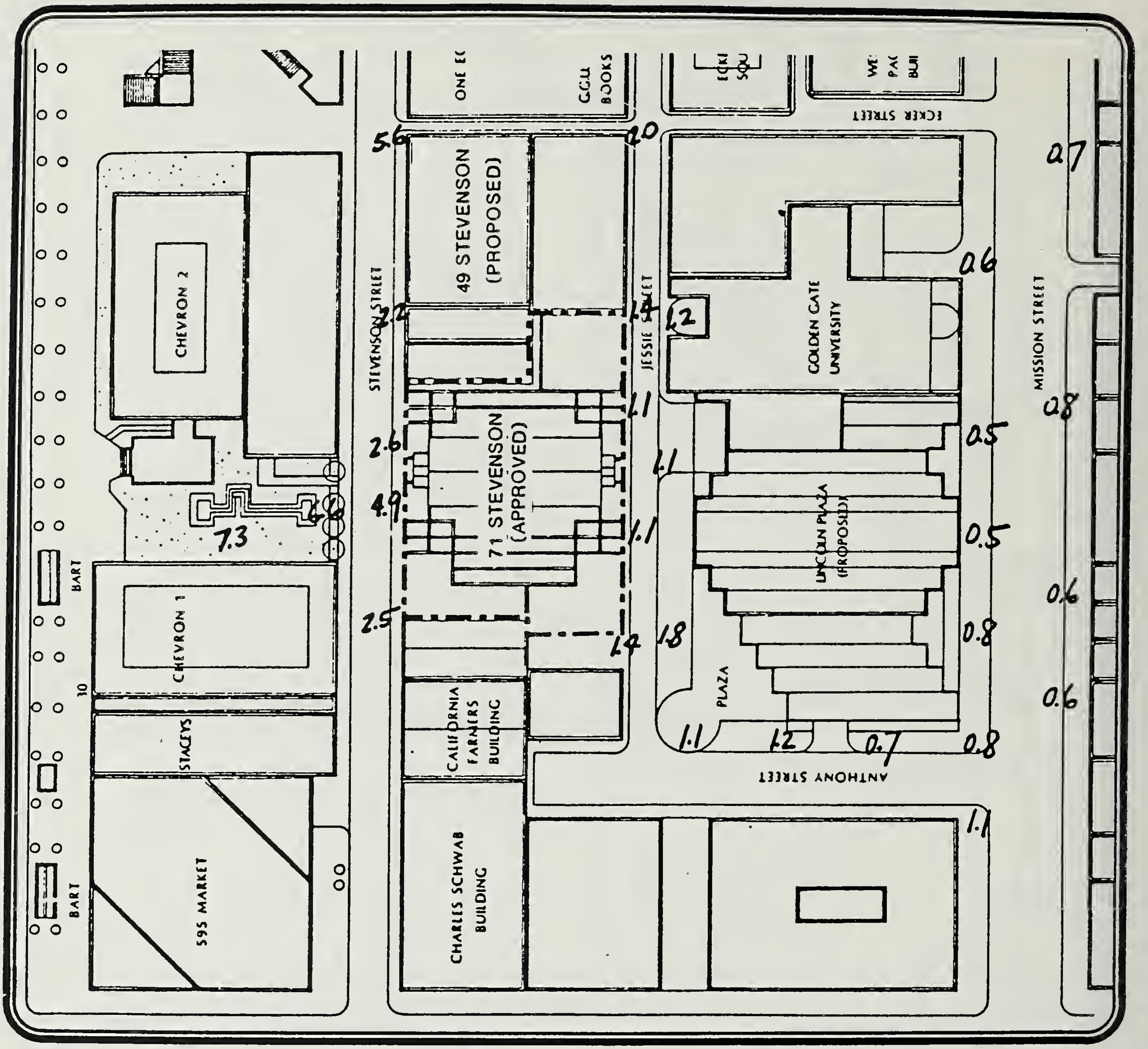


Figure A-12

Wind Impact Analysis - Northwest Wind

71 Stevenson with Lincoln Plaza

➡ Wind Direction

↖ N

0 100
FEET
Scale

Hand Written Numbers = Wind Speeds in MPH

Source: Bendix Environmental Research, Inc. and Environmental Science Associates

## DOWNTOWN OFFICE PROJECTS UNDER FORMAL REVIEW (IN SQUARE FEET)

| Assessor's Blk. | DCP Case No. | Project Name | OFFICE Total New Constr. | OFFICE Net New Constr. | RETAIL Total New Constr. | RETAIL Net New Constr. |
|---|---|---|---|---|---|---|
| 110 | 82.129E | Embarcadero Terraces | 139,000 | 139,000 | 3,000 | 3,000 |
| 113 | 82.418E | 1171 Sansome | 30,000 | 30,000 | | |
| 225 | 81.403ED | 814 Stockton | 3,500 | 3,500 | 3,300 | 3,300 |
| 227 | 82.463E | 505 Montgomery | 354,300 | 300,570 | 12,100 | -4,775 |
| 258 | 81.131E | Pine/Kearny | 315,800 | 315,800 | 6,750 | 6,750 |
| 288 | 81.687ED | 222 Kearny/ Sutter | 269,400 | 202,400 | 10,000 | -8,400 |
| 331 | 81.448E | Mixed Use Development | 218,600 | 210,100 | 44,700 | 19,700 |
| 641 | 82.200CV | 1735 Franklin (c) | 8,600 | 8,600 | | |
| 669 | 81.667ED | 1361 Bush (c) | 45,720 | 45,720 | | |
| 814 | 81.540E | 101 Hayes | 126,000 | 126,000 | 6,000 | 6,000 |
| 818 | 83.94EV | 583-591 Hayes (c) | 4,900 | 4,900 | | |
| 3702 | 81.549ED | 1145 Market | 137,500 | 108,500 | 8,000 | 8,000 |
| 3707 | 81.245DA | New Montgomery Place | 227,500 | 209,700 | 2,200 | -3,900 |
| 3708 | 81.493ED | 71 Stevenson | 324,600 | 324,600 | 6,200 | 6,200 |
| 3708 | 81.297ED | Lincoln Plaza | 573,000 | 476,300 | 10,000 | 10,000 |
| 3717 | 81.183E | 123 Mission | 342,800 | 342,800 | | |
| 3733 | 82.29E | 832 Folsom | 50,000 | 50,000 | | |

Continued on next page

| Assessor's Blk. | DCP Case No. | Project Name | OFFICE Total New Constr. | OFFICE Net New Constr. | RETAIL Total New Constr. | RETAIL Net New Constr. |
|---|---|---|---|---|---|---|
| 3750 | 82.241E | 600 Harrison at Second | 228,000 | 228,000 | 10,000 | 10,000 |
| 3750 | 82.77V | 642 Harrison (c) | 54,400 | 45,900 | | |
| 3760 | 81.386 | 401 6th | 7,000 | 7,000 | | |
| 3763 | 82.384EVD | 400 2nd at Harrison | 71,500 | 49,500 | | |
| 3764/74 | 82.591E | Second Street Square (c) | 333,000 | 333,000 | 25,000 | 25,000 |
| 3778 | 81.630ED | 548 5th/Brannan | 250,000 | 250,000 | | |
| 3786 | 82.33E | 655 5th/Townsend | 126,250 | 126,250 | | |
| 3788 | 82.352EV | 640 2nd | 39,100 | 37,400 | | |
| 3789 | 82.31EV | 615 2nd/Brannan (c) | 90,000 | 70,000 | 9,300 | 9,300 |
| 9900 | 81.63E | Ferry Bldg. Rehabilitation | 309,500 | 96,000 | 163,500 | 124,000 |
| TOTAL UNDER FORMAL REVIEW | | | 4,679,970 | 4,141,540 | 320,050 | 214,175 |

## APPROVED DOWNTOWN OFFICE PROJECTS

| | | | | | | |
|---|---|---|---|---|---|---|
| 58 | 82.234E | Roundhouse | 45,000 | 45,000 | 3,000 | 3,000 |
| 65 | 82.168V | 990 Columbus | 12,000 | 12,000 | | |
| 112 | 81.258 | Ice House (c) | 209,000 | 209,000 | | |
| 136 | 81.245 | 955 Front/55 Green | 50,000 | 50,000 | | |
| 141 | 81.151EV | 100 Broadway | 13,000 | 13,000 | | |
| 143 | 81.353ED | 1000 Montgomery (c) | 39,000 | 39,000 | | |
| 146 | 83.99EC | 644 Broadway | 42,800 | 42,800 | | |
| 161 | DR80.191 | Mirawa Center | 36,000 | 36,000 | 30,650 | 30,650 |

Continued on next page

| | | | OFFICE | | RETAIL | |
|---|---|---|---|---|---|---|
| Assessor's Blk. | DCP Case No. | Project Name | Total New Constr. | Net New Constr. | Total New Constr. | Net New Constr. |
| 164 | 81.631D | 847 Sansome | 23,750 | 23,750 | | |
| 164 | 81.573D | 50 Osgood Place | 22,500 | 22,500 | 9,100 | 9,100 |
| 166 | DR80.15 | 750 Battery | 105,400 | 105,400 | 12,800 | 12,800 |
| 176 | 81.673E ACV | Columbus/Pacific (Savoy) | 49,000 | 49,000 | 22,000 | 22,000 |
| 176 | 82.368E | 900 Kearny | 25,000 | 25,000 | 5,000 | 5,000 |
| 228 | 81.610ED | 569 Sacramento (c) | 19,000 | 19,000 | | |
| 261 | 81.249ECQ | 333 California (m) | 640,000 | 466,500 | 15,500 | 15,500 |
| 262 | 81.206D | 130 Battery | 41,000 | 41,000 | | |
| 265 | 81.195ED | 388 Market & Pine (m) | 234,500 | 85,500 | 10,000 | -8,500 |
| 267 | 81.241D | 160 Sansome | 2,200 | 2,200 | | |
| 268 | 81.422D | 250 Montgomery at Pine | 105,700 | 65,700 | 8,000 | 8,000 |
| 270 | 81.175ED | 466 Bush | 86,700 | 86,700 | 7,800 | 2,200 |
| 271 | 83.13E | 582 Bush | 18,900 | 18,900 | | |
| 288 | 81.461EC | 333 Bush | 498,400 | 458,100 | 20,900 | 20,900 |
| 294 | 82.870 | 44 Campton Place | 7,600 | 7,600 | | |
| 311 | 82.120D | S.F. Federal | 246,800 | 218,850 | 1,600 | -9,440 |
| 647 | 82.24V | 1581 Bush (c) | 16,000 | 16,000 | | |
| 690 | SFRA | Post/Van Ness | 88,000 | 88,000 | | |
| 716 | 81.581ED | Polk/O'Farrell (m) | 61,600 | 61,600 | 22,400 | 22,400 |
| 816 | 82.212ED | 300-350 Gough (m) | 16,000 | 16,000 | | |
| 834 | 82.603E | 25 Van Ness (c) | 101,800 | 42,800 | 36,400 | 36,400 |

Continued on next page

| Assessor's Blk. | DCP Case No. | Project Name | OFFICE Total New Constr. | OFFICE Net New Constr. | RETAIL Total New Constr. | RETAIL Net New Constr. |
|---|---|---|---|---|---|---|
| 3518 | 81.483V | 291 10th Street | 25,700 | 25,700 | | -25,700 |
| 3524 | 82.137V | 44 Gough (c) | 30,000 | 30,000 | | |
| 3705 | 80.315 | Pacific III Apparel Mart | 332,400 | 332,400 | | |
| 3707 | 81.492ED | 90 New Montgomery | 124,300 | 124,300 | 3,350 | 3,350 |
| 3709 | 81.113ED | Central Plaza | 353,100 | 136,300 | 17,400 | 17,400 |
| 3715 | 82.16EC | 121 Steuart | 33,200 | 33,200 | | |
| 3722 | 81.417ED | 144 Second at Minna | 30,000 | 30,000 | | |
| 3724 | 81.102E | Holland Ct. (c) | 27,850 | 27,850 | | |
| 3729 | 82.860 | 774 Tehama | 5,800 | 5,800 | | |
| 3732 | 81.548DE | 466 Clementina (c) | 15,150 | 15,150 | | |
| 3733 | EE81.2 | 868 Folsom | 65,000 | 65,000 | | |
| 3735 | EE80.106 | 95 Hawthorne | 61,900 | 61,900 | | |
| 3738 | DR80.5 | 315 Howard | 294,000 | 294,000 | 3,200 | 3,200 |
| 3741 | 82.203C | 201 Spear | 229,000 | 229,000 | 5,200 | 5,200 |
| 3749 | EE81.18 | Marathon - 2nd & Folsom | 686,700 | 686,700 | 35,300 | 35,300 |
| 3752 | EE77.220 | Office Bldg. (YBC SB-1) | 11,000 | 11,000 | | |
| 3763 | 81.287V | 490 2nd at Bryant | 40,000 | 40,000 | | |
| 3763 | 81.381 | 480 2nd at Stillman | 35,000 | 35,000 | | |
| 3775 | 81.147V | 338-340 Brannan | 36,000 | 36,000 | | |
| 3776 | EE81.59 | Welsh Commons | 55,600 | 55,600 | 12,000 | 12,000 |
| 3776 | 81.693EV | 539 Bryant/Zoe | 63,000 | 63,000 | | |

Continued on next page

| | | | OFFICE | | RETAIL | |
|---|---|---|---|---|---|---|
| Assessor's Blk. | DCP Case No. | Project Name | Total New Constr. | Net New Constr. | Total New Constr. | Net New Constr. |
| 3787 | 81.306 | 252 Townsend at Lusk | 81,900 | 81,900 | | |
| 3788 | 81.296Z | 690 2nd/Townsend | 16,600 | 16,600 | 16,000 | 16,000 |
| 3789 | 81.552EV | 625 2nd/Townsend | 157,000 | 157,000 | | |
| 3794 | 81.569EV | 123 Townsend | 104,000 | 49,500 | | |
| 3794 | | 155 Townsend | 19,000 | 19,000 | | |
| 3803 | 81.244D | China Basin Expansion | 196,000 | 196,000 | | |
| TOTAL APPROVED | | | 5,985,850 | 5,224,800 | 297,600 | 236,760 |

## DOWNTOWN OFFICE PROJECTS UNDER CONSTRUCTION

| | | | | | | |
|---|---|---|---|---|---|---|
| 106 | 81.415ED | 1299 Sansome | 41,000 | 41,000 | 3,500 | 3,500 |
| 227 | EE80.296 | Bank of Canton | 230,500 | 177,500 | | -800 |
| 163 | EE81.1 | 901 Montgomery | 63,000 | 63,000 | 18,800 | 18,800 |
| 164 | 81.251D | 936 Montgomery | 21,500 | 11,500 | | |
| 166 | CU81.7 | 222 Pacific at Front (c) | 142,000 | 142,000 | | |
| 167 | SFRA | Golden Gateway III | 103,000 | 103,000 | | |
| 206 | 81.165D | 401 Washington/ Battery | 13,200 | 13,200 | 1,800 | 1,800 |
| 208 | 81.104EDC | Washington/Montgomery (m) | 235,000 | 233,300 | 4,000 | -1,200 |
| 237 | DR80.6 | 353 Sacramento | 277,000 | 251,000 | 8,300 | -2,000 |
| 239 | DR80.1 | 456 Montgomery | 160,550 | 160,550 | 24,250 | 24,250 |
| 240 | DR80.16 | 550 Kearny | 71,400 | 71,400 | | |
| 240 | 81.705ED | 580 California | 329,500 | 260,000 | 6,500 | 6,500 |
| 271 | 81.517 | 453 Grant | 27,500 | 27,500 | 6,200 | 6,200 |

Continued on next page

# APPENDIX V

| Assessor's Blk. | DCP Case No. | Project Name | OFFICE | | RETAIL | |
|---|---|---|---|---|---|---|
| | | | Total New Constr. | Net New Constr. | Total New Constr. | Net New Constr. |
| 287 | 81.550D | Sloane Bldg. (c) | 125,300 | 125,300 | 30,000 | 30,000 |
| 288 | DR80.24 | 101 Montgomery | 264,000 | 234,000 | 5,900 | -14,100 |
| 289 | 81.308D | One Sansome | 603,000 | 603,000 | 7,000 | 7,000 |
| 312 | EE79.370 | 50 Grant | 90,000 | 90,000 | | |
| 351 | DR79.24 | Mardikian/1170-1172 Market | 40,000 | 40,000 | | |
| 672 | SFRA | Wealth Investments | 104,500 | 104,500 | | |
| 738 | SFRA | One Flynn Ctr. | 25,000 | 25,000 | | |
| 743 | SFRA | Van Ness/Turk (Vanguard) | 85,000 | 85,000 | | |
| 3512 | 82.14 | Van Ness Plaza | 170,000 | 170,000 | 6,000 | 6,000 |
| 3702 | EE81.25 | 1155 Market/8th | 138,700 | 138,700 | 8,800 | 8,800 |
| 3708 | DR80.34 | 25 Jessie/Ecker Square | 111,000 | 111,000 | | |
| 3709 | DR80.36 | Five Fremont Center | 791,200 | 722,200 | 35,000 | 17,300 |
| 3712 | 79.11 | Federal Reserve Bank | 40,000 | 640,000 | | |
| 3715 | | 141 Steuart | 80,000 | 80,000 | | |
| 3717 | EE79.236 | 101 Mission at Spear | 219,350 | 219,350 | | |
| 3717 | EE80.349 | Spear/Main (160 Spear) | 279,000 | 279,000 | 7,600 | 7,600 |
| 3717 | 82.82D | 135 Main | 260,000 | 260,000 | 4,000 | 4,000 |
| 3718 | DR79.12 | Pacific Gateway | 540,000 | 540,000 | 7,500 | 7,500 |
| 3724 | SFRA | Yerba Buena West | 335,000 | 335,000 | | |
| 3735 | SFRA | Convention Plaza | 339,000 | 339,000 | | |
| 3735 | SFRA | Planter's Hotel (c) | 20,000 | 20,000 | | |
| TOTAL UNDER CONSTRUCTION | | | 6,335,200 | 6,076,000 | 185,150 | 131,150 |

Continued on next page

| | | | OFFICE | | RETAIL | |
|---|---|---|---|---|---|---|
| Assessor's Blk. | DCP Case No. | Project Name | Total New Constr. | Net New Constr. | Total New Constr. | Net New Constr. |
| BUILDINGS RECENTLY COMPLETED BUT NOT IN BASE CASE ANALYSIS | | | | | | |
| 196 | | 736 Montgomery | 40,000 | 40,000 | | |
| 196 | CU79.49 | Pacific Lumber Company | 92,000 | 92,000 | | |
| 263 | CU79.12 | 101 California | 1,265,000 | 1,257,000 | 24,700 | -14,300 |
| 292 | CU79.13 | Crocker National Bank | 676,000 | 495,000 | 86,000 | 54,000 |
| 351 | DR79.133 | 10 U.N. Plaza | 92,050 | 92,050 | | |
| 762 | SFRA | Opera Plaza (m) | 50,000 | 50,000 | | |
| 3712 | DR79.11 | Federal Reserve | 640,000 | 640,000 | | |
| 3717 | EE78.413 | 150 Spear | 330,000 | 330,000 | | |
| TOTAL | | | 3,185,050 | 2,996,050 | 110,700 | 39,700 |
| GRAND TOTAL (All Projects) | | | 20,036,820 | 18,438,390 | 913,500 | 621,790 |

End

* (c) - Conversion (Generally industrial and/or warehouse to office)
(m) - Mixed Use (Office/residential/commercial)

Source: Department of City Planning

## DEMAND PROJECTIONS

### Cumulative

Travel demand for the 18 million[1] gross sq. ft. of new net cumulative office development and 620,000 gross sq. ft. of new net cumulative retail development in downtown San Francisco has been estimated using a land-use approach for trip generation.[2] Future travel into the downtown area has been assumed to be a result of construction and occupancy of downtown office and retail space. The Office of Environmental Review of the Department of City Planning (DCP) has identified office projects in the greater downtown area as being under formal review, approved or under construction. Appendix, V, p. 53, shows a list of projects separated by review status and includes the DCP case number, the gross and net square feet of office and retail space for each project and review status catagory. The information contained in these tables represents the best data available from the Department of City Planning at the time of preparation of this document.

As shown in Appendix V, p. A-53, net new office and retail space is less than total new construction as a result of subtracting out existing office and retail space on sites proposed for new buildings. "Net new" space is used to refer to the amount of new construction in excess of existing space on each site in terms of gross square feet of floor space. It does not refer to the leasable or rentable floor space.

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[1] All numbers are rounded to two significant figures.

[2] Bash, Alec, Memorandum re: Approaches for Determining Transportation Demand for Projects Requiring EIR's, July 2, 1982, Department of City Planning. This memorandum deals with the differences in land-use and employment trend approaches, recommending that both be used in future EIRs to give a more balanced assessment of future peak transporation demand. Available for public review at the Department of City Planning, Office of Environmental Review, 450 McAllister St., 5th Floor, San Francisco, CA 94102.

Estimates of future travel have been made using trip generation rates in the Transportation Guidelines.[1] Peak-hour travel was assigned by modes of travel based upon the regional distributions and modal splits shown in the Guidelines. Additional assumptions were made that the few non-work office and retail customer transit trips would be distributed as follows: CBD - 100% Muni; other San Francisco - 90% Muni, 10% BART; Peninsula; 100% SamTrans; East Bay - 70% BART, 30% AC Transit; North Bay - 100% Golden Gate Transit.

To calculate vehicle trip ends, the following occupancy rates were assumed: drive alone - 1.0; carpool - 2.5; vanpool - 8.0; nonwork office and retail customer auto - 1.5.[2]

A basic assumption in all of the transportation analyses is that existing regional distributions and modal splits would continue into the future unchanged. Thus, an implicit assumption has been made that about 50% of the future employees would live in San Francisco. If housing is not available in the City, however, the impact on the Muni would be less than noted, because City residents are the majority of Muni users.

## Employment Trend Approach to Cumulative Analysis

In this and other San Francisco EIRs, a land-use type of approach has been used to estimate the transportation impacts of both the proposed project and cumulative development. An alternate type of approach is to forecast travel demand based upon regional projections of employment share (employment trend approach). Briefly, the fundamental differences between (and limitations of) the two approaches are:[1]

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[1] Guidelines for Environmental Review - Transportation Impacts, Dept. of City Planning, September 1983.

[2] Telephone conversation with Gail Bloom of the Office of Environmental Review, Department of City Planning, July 27, 1983.

The land-use approach (as it has been applied in this EIR) has used net new office space actually proposed or under construction (less space in buildings demolished to make way for new buildings) as the basis for travel generation. The land-use approach assumes that literally all of the currently proposed development in the downtown area will be constructed and fully occupied within the time frame of the Lincoln Plaza project development and occupancy. No allowance has been made for less than 100% occupancy, for proposed developments that are never constructed, or for those which would not be occupied within the time frame of the Lincoln Plaza project.

The employment trend approach generates a total increase in employment in downtown that has taken account of loss of employment as industries and offices move out of the City, displacement of one type of industry with another (industry shifts), and replacement of existing office space with new office space. The employment trend approach makes no implicit assumptions concerning occupancy rates or actual square footage of development constructed; rather, it generates total employment increases from a standpoint which assigns jobs by metropolitan sector (area) based upon extrapolation of past trends and which considers long-term industry shifts to, within, and away from each area.

---

1. The Department of City Planning, Office of Environmental Review (OER) has issued a memorandum, dated July 2, 1982, dealing with the subject of the differences in the land-use and employment trend approaches and recommending that both approaches be used in future EIRs to give a more balanced assessment of future peak transportation demand. The memorandum is on file with and available from the Office of Environmental Review, 450 McAllister St., 5th Floor. The memorandum points out some of the fundamental differences between the two approaches and also details the limitations of each approach.

Note that neither of the two approaches has attempted to project future changes in modal split.

To illustrate the differences in projections resulting from the two approaches, Table A-4, p. 64, shows the total employment projections by the two methods (and the project's share thereof), the regional distribution of trips, and Muni's share of the new transit travel (and the project's share thereof).

As shown in the table, the employment trend approach predicts about 15% fewer employees in the downtown and about 8% more riders on Muni than does the land-use approach.

Several considerations concerning both of these methods need to be noted. The land-use approach, as it has been applied in San Francisco EIRs, analyzes the p.m. peak hour, whereas the employment trend approach analyzes the a.m. peak. Several reasons exist as to why one peak (or the other) may be the better one to analyze. The land-use approach, as it has been used in this EIR, examines the p.m. peak, because it has been observed to be the worst case for congestion on the City transportation system.

While the land-use approach assumes all new office space is fully occupied, the assumption of a functional vacancy rate of 5% is not uncommon. With 18 million sq. ft. of new office space assumed in the land-use approach to be occupied by 1990, a 5% vacancy would amount to appoximately 850,000 sq. ft. representing 2,500 peak hour trips (p.m.). This adjustment for vacancy would thus reduce Muni peak-hour impacts in the cumulative analysis by 630 riders.

The land-use approach calculations have assumed transit capacity to be fixed at existing levels. The OER memorandum points out, "It should be

Table A-4. COMPARISON OF LAND-USE AND EMPLOYMENT TREND APPROACHES FOR 1990 PROJECTION

| Approach | Downtown Employment Increase | Project Share* | Regional Trip Share S.F. | Regional Trip Share Pen. | Regional Trip Share E.B. | Regional Trip Share N.B. | Muni Peak-hour Increase** | Project Share*** |
|---|---|---|---|---|---|---|---|---|
| Land Use | 67,000 | 2.5% | 49% | 11% | 32% | 8% | 12,000 | 2.4% |
| Employment Trend+ (maximum) | 56,000 | 3.0% | 50-54% | 19% | 17-21% | 10% | 13,000 | 2.2% |

Note: As explained in the text, comparisons between the entries for the two approaches must be made with the understanding that the land-use approach reflects increases in employment and transit demand based solely upon increases in downtown office space while the employment trend approach reflects total increases therein based upon historical trends. The differences among the regional trip share figures reflect these and the other differences between the two approaches.

*Employment generated by the proposed Lincoln Plaza project as a percent of the cumulative downtown employment increase. Employment generation factor used was 275 sq. ft. office space/employee.

**Muni peak-hour increase is a demand projection (based upon existing and long-term employment trends) that is not dependent upon available or expected transit capacity.

***Muni peak-hour trips generated by the proposed Lincoln Plaza project, as a percent of the cumulative downtown Muni peak-hour increase.

+These figures, represent the worst-case analysis under the employment trend approach reviewed and accepted by MTC, ABAG and Muni as detailed in the July 2, 1982 DCP Memorandum.

++Based on 54% regional trip split to San Francisco (worst case).

Source: July 2, 1982 DCP Memorandum and Bendix Environmental Research, Inc.

options for expansion including increasing existing capacity by using articulated vehicles, expanded car pool and van pool programs and increasing the peak commuter period through flex-time programs, among others.

If future office development does not occur along the lines of past long-term trends as assumed in the employment trend approach, then the projections made in the OER Memorandum would be revised. The average annual growth during the period 1965-1980 was less than the growth per year proposed, approved, or under construction for the period 1980-1984. The employment trend approach assumes average growth through 1990 would be at the lower historic rate, reflecting activity fluctuations from the current rate including slowdowns due to changing business conditions.

Until a forecast exists to determine how the current decade's cycle of development may differ from the past, a judgment of the applicability of results from the OER Memorandum method may not be made. Consequently, this EIR has retained the land-use approach and presented this comparison of the employment trend approach. Both methods should be looked upon as describing potential scenarios of future conditions.

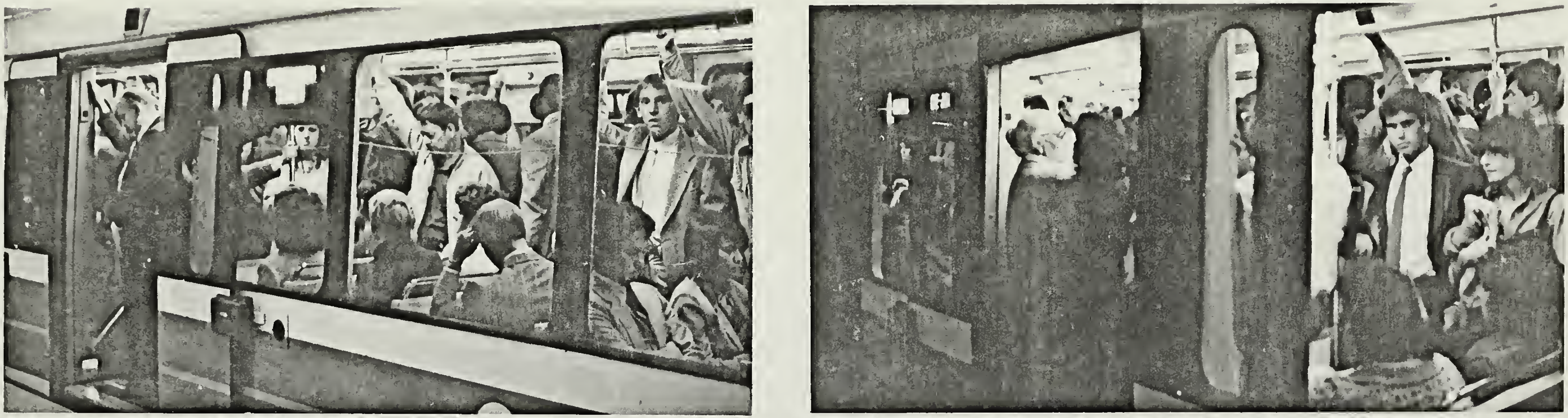
## Intersection Analysis

The capacity analysis of each intersection at which a turning movement count was made used the "critical lane" method. This method of capacity calculation is a summation of maximum conflicting approach lane volumes that gives the capacity of an intersection in vehicles per hour per lane. (This method is explained in detail in an article entitled "Intersection Capacity Measurement Through Cricital Movement Summations: A Planning Tool," by Henry B. McInerney and Stephen G. Peterson, January 1971, Traffic Engineering. This method is also explained in "Interim Materials on Highway Capacity," Transporation Research Circular No. 212, Transportation Research Board, January 1980). The maximum service volume for Level of Service E was assumed as intersection capacity. A service volume is the maximum number of vehicles that can pass an intersection during a specified time period in which operating conditions are maintained corresponding to a selected and specified Level of Service. For each intersection analyzed, the existing peak-hour volume was computed and a volume-to-capacity (v/c) ratio was calculated by dividing the existing volume by the capacity at Level of Service E. Table A-5, p. A-67, shows the definitions of Levels of Service related to v/c ratio.

## Table A-5. TRANSPORTATION LEVEL OF SERVICE DEFINITIONS

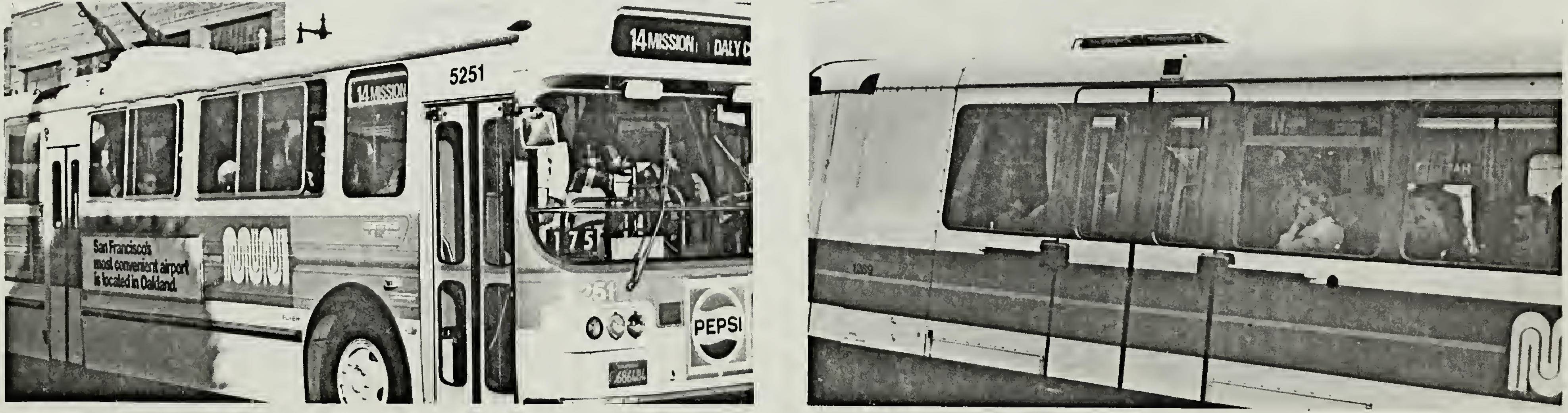
| Level of Service | Description | Volume/Capacity v/c Ratio |
|---|---|---|
| A | Level of Service A describes a condition where the approach to an intersection appears quite open and turning movements are made easily. Little or no delay is experienced. No vehicles wait longer than one red traffic signal indication. The traffic operation can generally be described as excellent. | 0 - 0.60 |
| B | Level of Service B describes a condition where the approach to an intersection is occasionally fully utilized and some delays may be encountered. Many drivers begin to feel somewhat restricted within groups of vehicles. The traffic operation can be generally described as very good. | 0.61 - 0.70 |
| C | Level of Service C describes a condition where the approach to an intersection if often fully utilized and back-ups may occur behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so. The driver occasionally may have to wait more than one red traffic signal indication. The traffic operation can generally be described as good. | 0.71 - 0.80 |
| D | Level of Service D describes a condition of increasing restriction causing substantial delays and queues of vehicles on approaches to the intersection during short times within the peak period. However, there are enough signal cycles with lower demand such that queues are periodically cleared, thus preventing excessive back-ups. The traffic operations can generally be described as fair. | 0.81 - 0.90 |
| E | Capacity occurs at Level of Service E. It represents the most number of vehicles that any particular intersection can accommodate. At capacity there may be long queues of vehicles waiting up-stream of the intersection and vehicles may be delayed up to several signal cycles. | 0.91 - 1.00 |
| F | Level of Service F represents a jammed condition. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration. Hence, volumes of vehicles passing through the intersection vary from signal cycle to signal cycle. Because of the jammed condition, this volume would be less than capacity. | 1.00 |

Source: San Francisco Department of Public Works, Traffic Division, Bureau of Engineering, 1965.



M OCEAN VIEW - CIVIC CENTER STATION
Wednesday, September 9, 1981 - 8:20 A.M. - Inbound

L TARAVAL - VAN NESS STATION
Wednesday, September 16, 1981 - 4:50 P.M. - Outbound


14MISSION DALY C
5251
14 MISSION
San Francisco's most convenient airport is located in Oakland.
PEPSI

14 MISSION - MISSION STREET AND SOUTH VAN NESS AVE.
Tuesday, September 29, 1981 - 5:45 P.M. - Outbound

N JUDAH - DUBOCE AND CHURCH
Wednesday, June 8, 1983 - 8:00 A.M. Inbound

Figure A-13 Photographs of Peak Muni Loading Conditions

SOURCE : Environmental Science Assoc., Inc.

## Table A-6. PEDESTRIAN FLOW REGIMEN

| Flow Regime | Choice | Conflicts | Flow Rate (P/F/M)* Average | Flow Rate (P/F/M)* Percent of Capacity used |
|---|---|---|---|---|
| Open | Free Selection | None | 0.5 | 0.0- 3.0 |
| Unimpeded | Some Selection | Minor | 0.5-2 | 3.1-11.0 |
| Impeded | Some Selection | High Indirect Interactions | 2-6 | 11.1-33.0 |
| Constrained | Some Restriction | Multiple | 6-10 | 33.1-56.0 |
| Crowded | Restricted | High Probabilty | 10-14 | 56.1-78.0 |
| Congested | All Reduced | Frequent | 14-18 | 78.1-100.0 |
| Jammed** | Shuffle Only | Unavoidable | | above 100.0 |

* P/F/M = Pedestrians per foot of effective sidewalk width per minute.

**For Jammed Flow, the (attempted) flow rate degrades to zero at complete breakdown.

Source: Urban Space for Pedestrians, Boris Pushkarev and Jeffery Zupan, MIT Press, Cambridge, MA, 1975.

## Table A-7. LENGTH OF STAY BREAKDOWN FOR METRO PARK USERS

| | Day 1 4 Oct 82 # of Cars | Day 2 5 Oct 82 # of Cars | Day 3 6 Oct 82 # of Cars | Length of Stay |
|---|---|---|---|---|
| | 40 | 29 | 19 | 1 Hour |
| | 31 | 22 | 26 | 2 Hour |
| | 17 | 11 | 1 | 3 Hour |
| | 6 | 16 | 12 | 4 Hour |
| | 18 | 5 | 10 | 5 Hour |
| | 3 | 10 | 18 | 6 Hour |
| | 47 | 50 | 44 | Over 6 Hours |
| | 140 | 140 | 140 | Monthly (no records kept on length of stay. Estimated that 2/3 of monthly parkers stay over 6 hours and 1/3 enter and exit repeatedly throughout the day. |
| TOTAL | 311 | 275 | 286 | |

Total # parking spaces: 199

Average Turnover Rate/Day/Space: 1.4

### Periods of Peak Traffic Movement Generated by Metro Park Facility

| | |
|---|---|
| 8:00 am - 9:00 am | Peak entry period for monthly users and users staying over 6 hours enter the lot during this time. Approximately 180-190 cars. |
| 10:00 am - 3:00 pm | Peak entry and exit period for users staying 1-6 hours and approximately 1/3 (45) of the monthly users. Approximately 150-160 cars. |
| 4:00 pm - 6:00 pm | Peak exit period for monthly users and users staying over 6 hours. Approximately 180-190 cars. |

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1. Metro Park information from Paul Lamson, Metro Park Office, 521 Mission St., phone conversation, October 14, 1982.

Table A-8. EFFECT OF CERTAIN dBA LEVELS ON OFFICE WORKERS

| dBA Level | Effect |
|---|---|
| 60 or below | No interference. |
| 60-70 | Annoying, interferes with converstation. |
| 70-80 | Difficult to concentrate, conversation possible only with raised voice. |
| 80 and above | Impossible to carry on normal work routine. |

dBA = A scale of noise measurement weighted to reflect the sensitivity of the human ear.

Source: Charles M. Salter Associates, Inc. and Bendix Environmental Research, Inc.

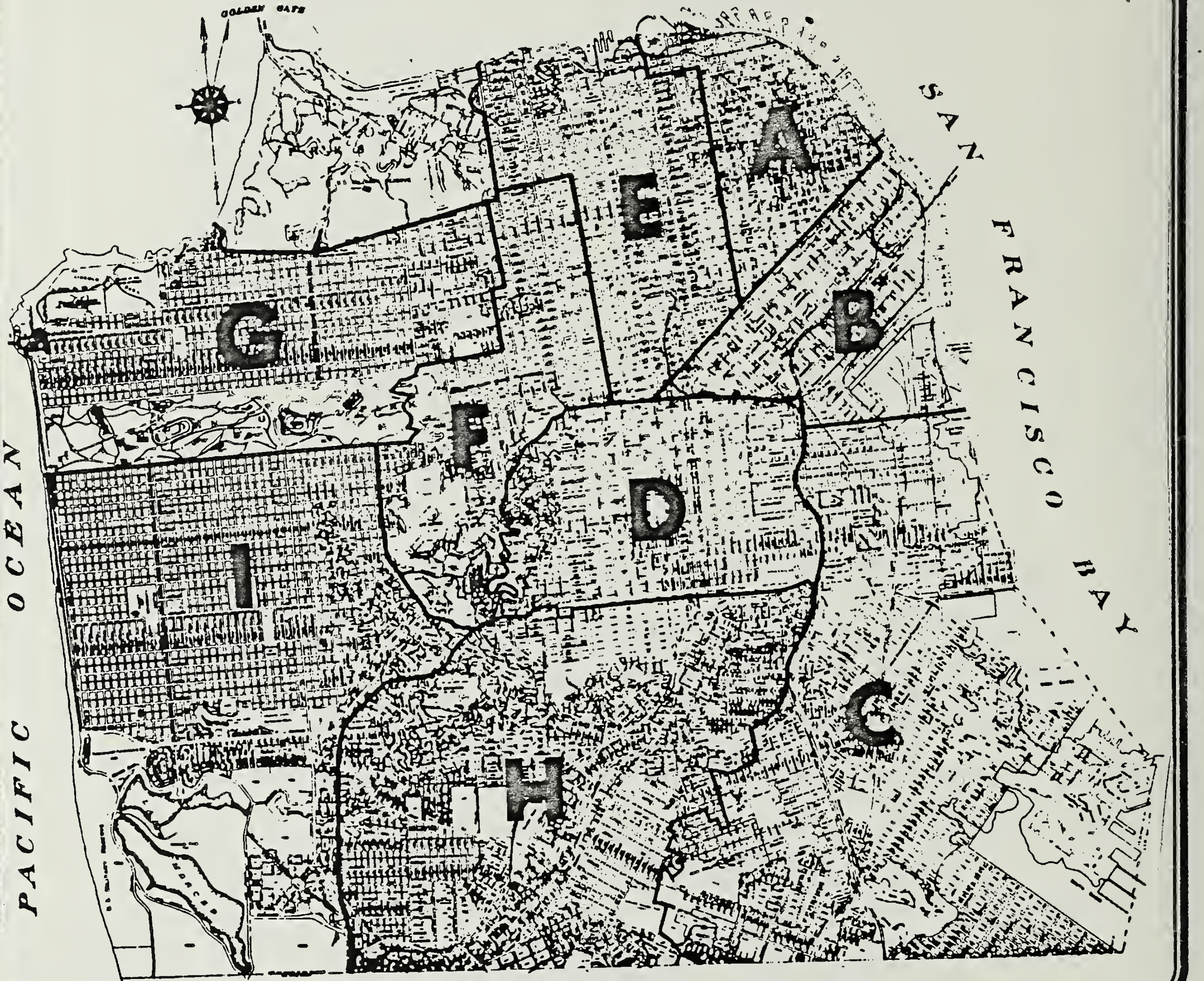

Fig. A-14

Police District Boundaries

Lincoln Plaza

| | |
|---|---|
| A | Central |
| B | Southern |
| C | Southeast |
| D | Mission |
| E | Northern |
| F | Park |
| G | Richmond |
| H | Ingleside |
| I | Taraval |

# APPENDIX IX. FIRE INCIDENCE IN SAN FRANCISCO

Table A-9. SAN FRANCISCO FIRE INCIDENCE 1970-1981

| | Building fires | Greater alarms | Total alarms |
|---|---|---|---|
| 1980-81 | 2816 | 90 | 39,199 |
| 1975-76 | 3793 | 146 | 34,416 |
| 1970-71 | 3830 | 139 | 30,727 |

Source: San Francisco Fire Department and Bendix Environmental Research, Inc.